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WINDOWS

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PCNOVICE.

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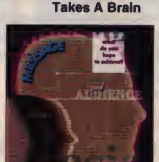

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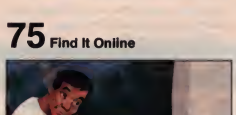

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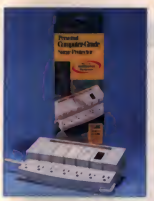

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TECHNOLOGY NEWS

Compiled by Cindy Krushenisky from AP and staff reports

The Golden Anniversary Of Computers

The world's first general-purpose electronic computer, known as the ENIAC or Electronic Numerical Integrator And Computer, celebrated its 50th anniversary in February. The 50-ton computer filled a 30-by-50-foot room and was capable of counting to 5,000 in one-fifth of a second—allowing ENIAC to perform in 30 seconds a calculation that would take a mechanical calculator 12 hours back then.

The whale of a computer was contained in 8-foot gray cabinets, had no monitor, and every second it was on, it used enough electricity (about 174 watts) to power a typical Philadelphia home for 1 1/2 weeks. The ENIAC, however, contributed two critical concepts for future computing, including the ideas of a "stored program" and the "if statement." Today's computers can store many programs and don't require the ENIAC's 40-pound trays of wires and vacuum tubes to do it. They also include the "if statement," letting them choose among different outcomes based on diverse inputs.

But ENIAC, which has less computing power than one of today's $40 calculators, has outgrown its usefulness. Most of the machine is now on display at the Smithsonian. To commemorate its birthday, Vice President Gore threw a switch, activating part of the computer so it could count from 46 to 96. Other events included a chess competition between IBM's Deep Blue computer and chess champion Garry Kasparov and the release of "The Birth of Computing" stamp by the U.S. Postal Service. ●

More Competition, Less Porn

By now, you've probably heard about the passage of the Telecommunications Act earlier this year, which rewrote the 1935 Communications Act and overhauled the rules for communications.

But what does it mean for you? Because the law opened up competition between telephone companies and cable companies (they now can compete in each other's markets), it should produce lower charges and speed the creation of an infrastructure for an information superhighway using telephones, televisions, and PCs. This means we may see cable modems delivering Internet access or telephones offering interactive television services in the near future.

Although some communications companies are unhappy that Baby Bell telephone companies meeting certain conditions now can offer long-distance services where they want, another portion of the bill is causing the biggest disagreements. One section, the Communications Decency Act, made it illegal to make indecent material available to minors through the Internet. Violators will receive up to six years in prison and be fined $250,000, unless they make "good faith" efforts to ensure minors can't get access. The problem, some say, is that the law is unconstitutional and it is impossible to reach a consensus on what constitutes indecent material. The bill also includes a provision for the creation of a V-chip for televisions that would block violent or objectionable shows, which the television industry promises to fight.

As *PC Novice* went to press, many Web pages on the Internet had changed their background color to black to mourn the passage of the bill. The government had reached a tentative agreement with the American Civil Liberties Union saying that it would not prosecute until the ACLU's suit challenging the law's constitutionality goes to trial. Also, U.S. District Judge Ronald Buckwalter had temporarily blocked the act because of its vague definition of indecency as material that "in context, depicts or describes in terms patently offensive as measured by contemporary community standards, sexual or excretory activities or organs." ●

Le Internet?

French use of the Internet is only a fraction of that in other European countries. Why haven't the French found this worldwide network as fashionable as their continental peers? Partly because years before most of us heard of the Internet, millions of French were browsing in cyberspace on France's home-grown online network.

Though the Minitel doesn't have the worldwide reach, color images, or speed of the Internet, it has been used daily since the early '80s by ordinary French people to send E-mail, read the paper, book flights, do banking, order pizza, or get instant soccer scores.

The French knew they would need online information early on and developed the system that 15 million now use to connect to 25,000 commercial services. Instead of paying $2,000 for a computer, Minitel users connect via phone lines through small terminals that are provided for free or rented cheaply by France Telecom. Only about 200,000 French now use the Internet, compared to 8 million or so Americans, 2 million British, and 1 million Germans.

Use of the simple Minitel system means France risks falling behind as the rest of the world speeds by on the Internet. But France Telecom is planning ahead to ensure the Minitel won't become outdated, even though it still offers much to the French that the Internet doesn't. The Minitel will get a speed boost, cost about 9 cents a minute, and include an E-mail link to the Internet. In addition, for about 5 cents a minute (roughly the cost of a local call), French users with a PC will be able to get on the Internet. ●

Waterlogged

If you've ever held a piece of quality bond typing paper to the light, you can see the watermark in the paper, indicating where it came from. Watermarks also are included in dollar bills and stamps to prove their authenticity. Now the idea is being used to protect copyrights of images and music on the Internet.

Cryptographic systems have been used to transmit multimedia material through the Internet, allowing only valid "keyholders" to decrypt the data and use it. But the problem is that once the data is decrypted, there's no way of marking to prove its ownership or knowing how many times it may be reproduced.

NEC Research Institute scientists have developed a digital watermarking method for use with audio, image, video, and multimedia information. It's a unique feature that stays with the material to identify copyright owners, buyers, and distributors. The watermark is placed in significant components of the signal, which makes removal of the watermark virtually impossible. A special process can be used to reveal the data's creator, but the watermark is invisible in images it accompanies. The watermark can be constructed to make counterfeiting almost impossible, and removal of the watermark will noticeably degrade an image's quality, making it almost useless. ●

Whew!

It was the classic battle of man vs. machine in the Association for Computing's chess competition earlier this year, when Garry Kasparov, reigning world chess champion, was pitted against IBM's Deep Blue computer system.

At first it seemed as if IBM had built a winner. Deep Blue won the first game because it was designed to counterattack Kasparov's aggressive moves. But Kasparov won the second game, outthinking the machine by moving to safe positions until Deep Blue would open up its line of defenses. The battle was difficult for Kasparov, not only because he couldn't pressure or intimidate his opponent but also because Deep Blue had been specifically designed to compete against Kasparov's style. Kasparov eventually won the series 4-2, as well as the $400,000 prize. Fans worldwide were able to follow the action, move-by-move, as the Association for Computing published the game as it happened on its World Wide Web page.

With its ability to quickly mine through billions of calculations to look ahead for the best possible moves, Deep Blue proved that computers may be able to come close to "thinking" and helping humans solve complex problems in many industries—from making sure flights arrive on time to analyzing how particular atoms would interact with drugs to scrutinizing financial investment. With such powerful processing, the possibilities seem endless. ●

More Trouble Brewing Online

You may debate whether it means Germany is just a little more litigation-happy or more in-touch with what's happening on the Internet, but German prosecutors are again making trouble with American online services. Early this year, German prosecutors were considering filing charges against CompuServe and America Online, allegedly because the services were inciting racial hatred.

Technology In The News

Though computers can be an important part of many people's lives, it's unusual to find a person who would choose one over a home. Neal Berry of Los Angeles, however, has a laptop computer, a cellular phone, a modem, and a slew of friends on the Internet, even though he doesn't have a home or a job. Berry's curbside Web surfing was interrupted earlier this year when a highway patrolman discovered the 22-year-old at his campsite under two freeways. Unfortunately, along with his mattress and computer setup, he also had several heavy-duty batteries taken from a state Transportation Department worksite. Berry was jailed on charges of theft and possession of stolen property and spent five nights in jail, although he claims he found the batteries among the junk under the freeway. Berry said he planned to head to Eugene, Ore., when his legal troubles were over so he could find work and save money to buy more hardware and software.

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Can adultery consist of steamy E-mail messages? That's what New Jersey courts must decide. John Goydan of Bridgewater has filed a divorce suit based on numerous E-mail messages that his wife, Diane, had exchanged with a North Carolina man known as "The Weasel" via America Online. The virtual affair never went further than cybersex, but can it still be called adultery, or at least extreme cruelty, as John Goydan is claiming? Diane Goyden has filed a countersuit, accusing her husband of defamation and invasion of privacy because he retrieved her password-protected messages. While both Goydans seek a divorce, the adultery issue could play a role in a custody dispute for their two children.

• • • • • • • • • • • •

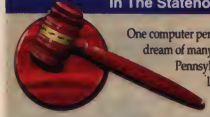
Online information users may like to think of themselves as belonging to a special Internet community, but when it comes to federal appeals court, law still resides in the earthly realms. The U.S. 6th Circuit Court of Appeals recently upheld convictions of Robert and Carleen Thomas. The Thomases were taken to trial in Memphis, Tenn., in 1994 because of sexually explicit images and words on their Amateur Action Bulletin Board Service in Milpitas, Calif. An undercover postal inspector in Memphis visited the BBS and brought the couple up on charges. Until the Memphis trial, regulation of obscenity based upon community standards had been applied to material on a BBS only in the locale where it originated rather then where it was received. What is acceptable in California, for example, may be over the limit in another state. The 6th Circuit found there was no need for the court to adopt a new definition of "community" for BBS obscenity cases, as the Thomases had argued. The decision will now be a rule in the 6th Circuit (Tennessee, Kentucky, Ohio, and Michigan) and can be cited as a legal precedent throughout the country. A similar ruling is not ensured regarding Internet information because the new Telecommunications Bill only includes provisions for transmitting indecent material to children via the Internet. ●

The services, through their Internet gateways, allowed access to neo-Nazi propaganda posted by Ernst Zuendel, a German neo-Nazi living in Toronto. Publishing or distributing neo-Nazi literature or literature denying the Holocaust is illegal in Germany. Violators can be charged with inciting racial hatred, but it is unclear how such laws can be enforced in the free-for-all atmosphere of cyberspace.

T-Online, Germany's largest Internet access provider, blocked its 1 million subscribers from gaining access to Zuendel's postings after being warned by German prosecutors. The two American online services have not yet blocked access to the California server that handles Zuendel's postings because they would have to block service to users worldwide. But they're working with prosecutors to find a solution.

Germany stoked the Internet censorship flames in December 1995 when the country's prosecutors pressured CompuServe into blocking access worldwide to sex-oriented areas of the Internet. The controversy likely will continue until online services can find a way to block specific areas on the Internet to set countries and regions, or until prosecution changes its focus from the service providers to the people actually creating the illegal content. ●

In The Statehouse



One computer per student may be the dream of many teachers, but in Pennsylvania, it may become law. If the INTELL 2000 plan, sponsored by State Rep. Michael Veon of Beaver County, is passed, Pennsylvania government will commit $2.5 billion over 10 years to ensure that every student has a computer in school and that schools are connected to an online service or the Internet. Veon's bill, in an effort to move Pennsylvania from its 47th-place ranking in technology, proposes that the computer-to-student ratio be raised to 1-to-4 by 2000 and 1-to-1 by 2005. Is it possible? The money may be needed to keep up with the technology race, but Pennsylvania's Education Department Spokesman Sean Duffy says advancing technology in schools will require more than dropping a computer on every student's desk.

• • • • • • • • • • • • •

Colorado legislators headed into uncharted territory in February when they examined a bill to govern E-mail privacy. If Colorado passes the bill, it will be the first state to have such a law. The measure passed by the House State Affairs Committee and sent to the House Appropriations Committee (for cost analysis) would make computer E-mail confidential. The issue arose after a few employees at private companies were fired for sending inappropriate E-mail and some government workers were forced to turn over private E-mail because it was considered government property. Legislators will wrestle with points such as whether E-mail is like phone conversations and can be kept private or is open to monitoring by business owners ensuring that the E-mail is used for business purposes. ●

Tech Shorts

WordPerfect diehards, get ready for another change. Your favorite word processing software has been sold again, this time to Corel, maker of the popular *CorelDRAW!*. Novell had purchased WordPerfect from WordPerfect Corp. less than two years ago, along with the *Quattro Pro* spreadsheet from Borland International. Now the programs have changed hands again. The products are slated to join Corel's graphics programs in a software suite that will compete against Microsoft's dominant suite products. Rumor has it that the Corel suite will include features for Internet data sharing . . . .

If you thought you had enough to worry about when buying a new PC, here's a new rating to look for. Advanced Micro Devices, Cyrix, IBM, and SGS-Thomson Microelectronics have announced a measurement, called a P-rating, that gauges a processor's performance when handling normal tasks. They say a P-rating will measure performance more accurately than a processor's clock speed. All four companies sell processors that compete with Intel's microprocessors; therefore, the P-rating will indicate a system that delivers performance comparable to an Intel system. For instance, a Cyrix processor that may perform like an Intel 150MHz machine would display a P150 rating, regardless of its own megahertz speed. ●

Product Previews

TALK BACK: It seems some of the new computerized navigational tools have forgotten one thing in their hurry to get map information to you via a display on your dash: drivers really shouldn't take their eyes off the road. Amerigon has developed its own version of the back-seat driver that may offer a solution.

Its voice-activated, interactive navigation system, called Interactive Voice System (IVS), promises to tell users where to go, literally. There are no display panels of buttons that would require you to take your attention off the road. IVS responds to commands, letters, and numbers spoken into a microphone by the user. Another neat feature includes directions to nearby services such as gas stations, ATMs, hotels, shopping, or golf courses. The system, however, does not make use of the global positioning system to track your position as other products do.

The compact unit is about the size of a VHS videotape and is installed into compatible CD car stereo systems. IVS map software is contained on a CD. Each software mapping package is split up into major metropolitan areas within a state, such as New York/New Jersey or Washington/Baltimore.

The units are available nationwide for about $600 to $700, not counting the cost of the audio CD player. The built-in software is activated by a passcode purchased from the company for about $79.95 per area. For more information, contact Amerigon at (800) 435-8627 or (818) 932-1200. ●

A Tool For Gardeners

If you are tired of digging through detailed, unfriendly gardening software, perhaps *The Gardener's Friend* from Crystonix Software is the right tool for you, as it helps you select the perfect plants for your yard. It does most of the work up to actually planting the seeds in the ground.

The Gardener's Friend, which costs $24.99, contains information on more than 1,800 annuals, perennials, trees, shrubs, vines, and ground covers and instantly compares their requirements with the characteristics of your planting area. Gardeners just have to punch in a climate zone (map included), lighting, water content, and consistency of soil, and The Gardener's Friend will do the rest.

A gardener also can choose from criteria for the plants ranging from type, height, and growing speed to plant-specific options such as hedge density and flower colors. And while you are entering data for tree, shrub, or ground cover, the program provides an appropriate background, with brilliant pictures of the general type of plant you are researching.

If the details of your search end up being too precise and the result is not enough variety, the Recommender will find the closest possible matches to your original preferences.

The program also gives you the option of saving up to 50 specific compositions of your yard and descriptions of the plants you are looking for. This saves you from retyping the basic parameters of the soil and the qualities you are looking for in your plants.

This software also comes with 10 pre-saved theme gardens if you aren't sure what type of garden you are hoeing, but these have such precise climate and soil requirements that you may end up with only one or two flowers in your "English Country Garden."

The Supersearcher feature digs up plants from only partially entered names. For example, we typed in **chry**, and the Supersearcher gave us five varieties of chrysanthemums. The Info Viewer then provided modest amounts of additional information about these flowers, but you might want to keep a garden book handy for more detailed descriptions.

When you've finished selecting the arboreal haven of your dreams, you can print out a handy report of all your plants and run down to Earl May.

Whether you are an experienced planter or someone who's just starting to sow their seeds, The Gardener's Friend will help fertilize your goals of becoming a world class gardener. ●

For More Information:

The Gardener's Friend
Crystonix Software
(800) 272-9350
(408) 272-9343

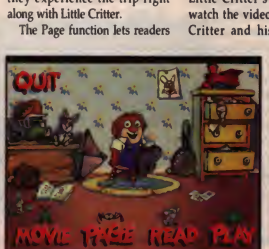
Go Camping With Me And My Dad

Children will enjoy a camping trip with Little Critter in the new interactive storybook from GT Interactive. Based on award-winning children's author Mercer Mayer's best-selling book, "Just Me and My Dad," this CD-ROM storybook is the newest feature in GT's 'Kidz Corner' line devoted to children's entertainment.

In *Just Me and My Dad*, readers join Little Critter and his dad on an exciting camping expedition into the woods, where they pick a campsite, go fishing, tell ghost stories, and spend a night under the stars. Just like the storybook, this program includes text that children can follow as the story is being read and vivid illustrations to keep them entertained.

The storybook Play function consists of 12 pages that burst with interactivity and feature about 24 "hot spots" that, when clicked, will amuse children with lively sounds and eye-catching animations, including Little Critter, various animals, flowers, and trees. These pages will keep children focused on the story as they experience the trip right along with Little Critter.

The Page function lets readers revisit their favorite pages at any time, and a 13th page features a 22-minute, full-motion, Just Me and My Dad animated video, giving children yet another way to enjoy the story. This screen lets the child turn on the TV set in Little Critter's living room to watch the video made by Little Critter and his dad on their camping trip.



In *Just Me and My Dad*, children can participate in a Little Critter adventure in four different ways.

This program is a good way to introduce small children to computers and get them interested in learning more. The hot spots are cute and outrageous enough for even adults to enjoy when they sit down and read the story with their children.

Just Me and My Dad is the second Little Critter book to appear on CD-ROM; *Just Grandma and Me* was released in 1993. Just Me and My Dad is expected to retail for $39.95 and was released to retail outlets in March. It is compatible with a PC or a Macintosh. ●

For More Information:

Just Me And My Dad
GT Interactive Software
(212) 726-6500

Improve Your SAT Word Power

May and June are big months for high school students. Not because school ends and summer vacation begins, but because these two months contain testing dates for college-bound high school students taking the Scholastic Aptitude Test (SAT).

Preparing for the dreaded SAT test, which is the test that determines one's eligibility for colleges and scholarships, can be stressful. Students can buy workbooks that contain sample tests, take expensive classes weeks prior to the exam, or cram the night before.

Now students have a another option. *World of Words (WOW)* is a Macintosh or Windows product from RES Software that's designed to help students improve their knowledge of vocabulary, highlighting almost 1,000 words frequently used in previous SATs. WOW is an effective tool for anyone interested in boosting their vocabulary; however, it is specially designed for students who are taking the SAT.

Students know that in order to understand and remember various words, they should be experienced in real-life situations. WOW places words in entertaining, music-based stories that make the words easier to remember. Users will share experiences with Luther, a multicultural character who loves music and plays in a band. WOW makes it easy to visualize words with Luther and friends because the students read short stories about the characters. Students can explore new meanings with cartoon illustrations or work to develop their own mental images to trigger quick recall.

WOW classifies words into 75 Word Families. Each family consists of a Contrast Pair (two words opposite in meaning) and a list of synonyms for each word. Word definitions are learned by grouping similar items together.

Students can set their own study schedule, determining what to study and in what order. Words then can be entered into a 20-word test at any time. According to RES Software, research has shown that student SAT test scores have improved by an average of 125 points after using this program.

World of Words is available for a suggested retail price of $69.95 through catalogs, online services, retail stores, or by calling RES. ●

For More Information:

World Of Words
RES Software
(800) WOW-WORDS
(201) 328-8088

Play Pinball At Your Desk

Looking for that classic arcade action at your desk? With this product, there are no quarters needed, and it's more exciting than Solitaire. PC pinball wizards can forget about playing pinball with their keyboards because more traditional pinball controls are coming to their desktop.

ThrustMaster Inc.'s Wizzard Pinball Controller was designed to give the full-game advantage by providing more realistic interaction with pinball software games. You really will feel as if you're at the arcade.

The Wizzard Pinball Controller is designed with two ergonomic flipper controls that attach to either side of your keyboard. Each control features dual-stage flipper buttons that activate the upper and lower flippers of your game table. The Wizzard also includes a device that senses table nudging and then relays that information to the software, just like a good hip-check on the real thing. Most PC pinball games designate the left and right SHIFT keys for flipper buttons and the ALT key to bump the table, but the Wizzard eliminates the use of the keys.

In addition to the controls, ThrustMaster also includes the classic pinball game, *Royal Flush*. This game features an original table design with sounds, scrolling or stationary playfields, and table tilt adjustments. The view fills the entire computer screen. The Wizzard also supports *Hyper 3-D Pinball*, *Extreme Pinball*, and several others. We tried it with Hyper 3-D, which features six different games, and it worked well. (*NOTE: These other products aren't bundled with the Wizzard; they must be purchased separately.*)

Although the Wizzard controllers are much more like the real thing than the keyboard, they do take some getting used to. You can calibrate the controllers during installation, but it may take a couple of games before they feel comfortable. Keyboards are not as sturdy as real pinball tables so it can be difficult to hold the keyboard in one place, especially if you're getting excited about your game.

The Wizzard Pinball Controller, along with the software, will be sold at a suggested retail price of $39.95 and is available for IBM and compatible PCs. ●

For More Information:

Wizzard Pinball Controller
ThrustMaster Inc.
(503) 639-3200

The Wizzard Pinball Controllers attach to either side of your computer's keyboard for easy installation.

Helping kids make fun connections is the basis behind Skools Inc.'s new Kin-der-link computer table. This desk actually grows as your child grows, blending function with style. It is designed to promote creativity and comfort for kids working together or alone.

The desk, made of white birch plywood, is small enough to fit through a standard doorway yet big enough for two children or a child and an adult to sit at. It adjusts from 14 inches, which is suitable for 4-year-olds, up to 30 inches, which is suitable for adults. This desk comes with a five-year guarantee.

The work surface is 38 x 28 inches, which is big enough for all your computer equipment, and features corner cutouts for managing wires. Its design includes two adjustable shelves, four locking casters, and a six-plug surge protector. The storage shelf is 38 x 14 inches and adjusts from 7 to 22 inches. The entire unit weighs only 45 pounds.

Skools Inc. also offers seating to complement the computer table. Maple stools come in 12 different designs. These stools stack for storage and link together to form circles or to create a bench seat. The available colors are blue, red, yellow, green, and natural.

This computer desk ships fully assembled, and wire loops lock easily around the oval cutout to deter theft.

The suggested retail price is $550.00 for the desk and $65.00 for the stool. For additional information, you also can contact their Web page at http://www.kinderlink.com. ●

For More Information:

Kin-der-link Computer Table
Skools Inc.
(800) 545-4474
(212) 674-1150

A Disc A Day Keeps The Doctor Away

Now you can build your very own medical center at home and use it to diagnose your own medical needs. *Dr. Schueler's Medical Center 6* has six medical titles available in one package.

Learn to burn fat and build muscle with *BodyCraft: Fitness & Diet*. This CD-ROM plans your meals, makes your grocery list, tells you exactly what to eat for every meal of your day, and creates a personal exercise routine. If you are serious about getting in shape and have the self-discipline to stick with one of these plans, this program would fit you.

The doctor is in with *Home Medical Advisor Pro*. This program integrates video and still images to produce a "multimedia doctor" who can diagnose and access information on countless medical topics. The video libraries in this program are informative, and although some images are graphic and hard to look at, they are helpful in diagnosing what type of injuries you may have.

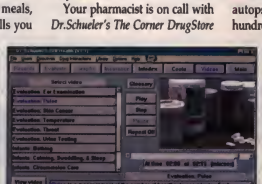
Your pharmacist is on call with *Dr.Schueler's The Corner DrugStore LE*. This CD-ROM lets you look up information about a drug *before* you take it. The Corner DrugStore gives you information on prescription and nonprescription drugs, which are also referenced in full-motion video. You can select prescription medication and test it for harmful interaction with any nonprescription drugs you may take.

Visual Man Lite is like a virtual autopsy. This program contains hundreds of cross-sectional images of a human cadaver in elaborate detail. There are 1,800 digital photographs in this CD-ROM.

Experience adventures in anatomy with *BodyWorks*. View the human machine with three-dimensional rotating images, magnified views, and full-motion videos. The CD-ROM has a health section with lesson plans and quizzes to test your health know-how.

Disease prevention is made easy with *Dr. Schueler's SelfHEALTH*, which provides video libraries on self-care for infants as well as adults, including topics such as the Heimlich maneuver and CPR. Self-HEALTH generates medical-legal documents, such as living wills, and organizes your family's medical records and health care spending into spreadsheets. For those who like all of their medical information in easy reference, this CD-ROM would be beneficial.

In fact, the whole Medical Center 6 is a handy product for anyone concerned about their health or those who just want to know more. The street price for the package is $39, which is available by calling Dr. Schueler's Health Informatics Inc. ●



***Dr. Schueler's Self-HEALTH* offers you full-motion video on a variety of health topics, such as correct medicine dosage.**

For More Information:

Dr. Schueler's Medical Center 6
Dr. Schueler's Health Informatics Inc.
(800) 788-2099
(407) 779-0310

A Hundred Years Of The Olympics

***Olympic Gold* can help fans recall the great moments of Games past.**

One hundred years ago, the first torch was lit. Now, celebrating a century of athletic excellence, *Olympic Gold* provides sports experts and new Olympic fans with a complete database of 16,000 medal winners, the official rules of the individual events, and information about each of the countries that have hosted the games. Olympic Gold covers the complete 100-year history of the modern Summer Olympics for the first time.

Olympic Gold has five key features to access, symbolized by the five Olympic rings. The Athletes provides an in-depth look at medal winners, including extensive stories about 100 legendary competitors. The Nations gives you the facts and figures about every country that has ever participated in the Summer Games from Afghanistan to Zimbabwe. The Games features guided video tours as well as the results of each event and participation figures for all countries that competed each summer. For those who like specific events, The Events lets you see a colorful description and detailed history of each Olympic sport, including a three-dimensional rule book. The History section features different areas of the Olympic Games, such as marketing, media, opening ceremonies, and more. By choosing one, you can see video footage of that particular area from its very beginning.

All of this data is easy to access and brought to life with photographs, video segments, and historical articles. Die-hard fans also can relive every Summer Olympics since 1896 through video tours and get to know athletes profiled in in-depth, multimedia essays.

And for the fans who think they know it all, the Trivia section tests your knowledge of the Olympics in a race against the computer, complete with presentation of the gold medal at the end.

Olympic Gold on CD-ROM is available in retail stores across the United States at a suggested retail price of $39.95. It is an official, licensed product of both the United States Olympic Committee and the International Olympic Committee. ●

For More Information:

Olympic Gold
Discovery Channel Multimedia
(800) 678-3343
(317) 579-0438

Fairy Tales Get New Life

Baba Yaga and the Magic Geese, the first in a series of interactive folk tales from Davidson, is packed full of fun and education. Based on a Russian folktale, the story has both an audio narrative and printed text on each screen for older children to read. The narration is provided by Grandpa Mouse, who introduces the story and reads the text. The three-dimensional animation, music, and narration create a program as engaging as any cartoon show. The program includes a book so children and parents can enjoy the story away from the PC, too.

There are two ways to use the program. In the first, for younger children who want to watch and listen to the story, Grandpa Mouse turns the pages of the storybook automatically. In the second, older children or parents can use the interactive mode, which lets them play within the story, having words or sentences repeated and exploring the items that come to life when clicked. In this mode, players turn pages to go backward or forward in the story.

There are literally hundreds of hidden treasures; you can click almost any item on the screen to make it perform some kind of activity. Brooms dance, plants blossom, animals play, and characters speak extra lines not included in the main story line. Children will be delighted by the things they uncover.

In addition to providing entertainment, the story exposes children to other cultures and their stories, teaches language skills, and has a moral. Baba Yaga and the Magic Geese tells the story of a young Russian girl, Tasha, who learns the importance of being responsible and keeping promises. When she neglects to watch her little brother, Tasha must search the forest for him after he's kidnapped by the magic geese of the witch, Baba Yaga.

There are two other stories in the series. One is a Japanese tale about bravery, and the other is an East African story stressing the importance of kindness. With a street price of about $35 for each story, these tales make a great addition to any child's library. ●

For More Information:

Baba Yaga And The Magic Geese
Davidson & Associates Inc.
(800) 545-7677
(310) 793-0600

In *Baba Yaga and the Magic Geese*, almost every item in each screen will come to life when it's clicked.

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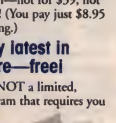

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Does Your PC Have A Mind Of Its Own? Here's How You Can Take Control...

BY CLARK PARKER

If you're like me, you probably look at your computer with equal parts awe and incomprehension.

Sure, the possibilities seem limitless, but it sometimes seems as if just switching your PC on requires advanced education. You can read the operating manual, but more often than not it seems to have been translated from Japanese to English by someone who knows only Swahili.

Go to your local bookstore, and you'll find hundreds of books — all written for somebody else's software. Of course, most computer manufacturers offer telephone helplines as a solution...if you don't mind sitting on hold for forty minutes and then forgetting the question you meant to ask, that is.

ICS Learning Systems of Scranton, Pennsylvania has developed another option. It's called *distance education*, and for thousands of men and women around the world it's become the best way to learn the intricacies of computer hardware and software without having to go to class.

The way distance education works is simple. You enroll in the course that best suits your needs — anything from Desktop Publishing to an Associate in Specialized Business Degree in Applied Computer Science. Once you enroll, the school sends your instructional materials to your home or office. You get lessons, books, software–whatever you need to complete your course. Lessons are presented step by step, and most courses can be completed in less than a year. A Degree takes a little longer, but you can still come away with a four-semester Degree in as little as two years.

What most people like best about distance education is its convenience. Unlike a college class, you have complete control over when, where, and how long you study. There's no time spent traveling to and from class, and your "class schedule" is as flexible as you are. Plus there's no waiting for other students to catch up or wishing the instructor would slow down. You move at your own pace. Exams are given on an open-book basis, which means you can be sure you've mastered the concepts rather than memorized the answers.

The courses are usually designed to provide students with the expertise to enter or advance in computer careers. In fact, thousands of students have used their training to secure promotions, pay raises, and even start whole new lives in computer career fields from Programming to PC Repair. And even if you just want to master the PC for your own enrichment and enjoyment, you can be confident that each training program provides up-to-date and comprehensive instruction.

All the information is presented so that even students who don't know a floppy disk from a soggy pizza can easily absorb every detail. Beginners love distance education because everything is presented in a logical, step-by-step format. There's no confusing "techno-speak," and you get plenty of hands-on experience. And even though courses are easy to understand and complete, they're so informative that even computer experts will learn something (and usually *several* somethings) they didn't know before.

But just because you study at home, on your own schedule, doesn't mean you're alone. ICS, for instance, has a large support staff at their headquarters, including expert instructors who are available to answer questions by toll-free helpline, as well as via the ICS site on the world wide web (http://www.icslearn.com).

Of course, ICS isn't the only distance education school out there, though it is the largest and most experienced in the world. You should compare ICS with other programs to make sure you get instruction that's right for you. The following chart shows a few of the differences between ICS and its leading competitor:

HOMESCHOOL CHECKLIST	ICS	Leading Competitor
Students Enrolled	250,000	55,000
Total Courses Available	58	30
Number of College Degree Programs	11	None
24-hour Student Helpline	Yes	No
Payment Plan Available	Yes	Yes
Finance Charges on Payment Plan	None (0%)	8%

ICS currently offers Career Diploma Courses in such computer specialties as: Computer Programming, Personal Computer Specialist, PC Repair, Desktop Publishing & Design, Computer-Assisted Bookkeeping, Small Business Management, and Personal Computer Fundamentals. You can also get your High School Diploma through ICS, or choose a Career Diploma course in a non-computer career field, like Electrician, Medical Office Assistant, Dental Assistant, Professional Locksmithing, TV/VCR Repair, Legal Assistant, and Appliance Repair. You can even earn an Associate in Specialized Business Degree by choosing Applied Computer Science, Accounting, or Business Management. Get an Associate in Specialized Technology Degree in Electrical Engineering Technology or Mechanical Engineering Technology. Every ICS Degree Program offers computer training.

FOR MORE INFORMATION, you can contact ICS directly by calling toll free **1-800-595-5505, Ext. 7080** Write to ICS Learning Systems at Dept. AA5556S, 925 Oak Street, Scranton, PA 18515 or contact ICS on the Internet at http://www.icslearn.com

The school will send you FREE information and a color brochure about the training program you're most interested in. There's no obligation, so contact ICS today!

8126

CTRL-ALT-DEL

It's Not Just For Reboots Anymore

The CTRL-ALT-DEL options available in Windows 95 mean you don't always have to restart your machine.

As computer operating systems have evolved over the years, so have some of their most basic features. This is especially true of the key combination CTRL-ALT-DEL, which started out as a basic **reboot**, or restarting, command in DOS and has grown into a handy feature with options in Windows 95.

Most computer users know what it's like to have a computer freeze up. You are working away, when suddenly everything stops responding. Mouse movement and most keys have no visible effect. Unless you can get the program to respond, you must restart the computer and lose any unsaved data. As you watch a motionless screen, you become confused and angry and insist, "I didn't do anything!"

Even though you may not be the culprit, computers rarely freeze up for no reason, according to Michael Ahrens, Microsoft Windows 95 product manager. Many times, there is a definite reason why a computer locks up; it just may not be obvious to the frustrated user.

Most of the time, the problem involves a bug in the program you are using, Ahrens says. Sometimes a program will send the computer a set of commands it just doesn't know how to handle. Other times, data in your files can become corrupted and cause the computer to lock.

"Typically what happens is the program tries to access some memory outside what it owns, and the operating system won't let it happen," he says. This is called a **general protection fault (GPF)**. Some applications don't recover well when this happens, tying up the whole system.

Reach For The Keys

Sometimes, if you wait long enough, your computer eventually will recover on its own. But most of the time, once your system locks up, it is time to hit the CTRL-ALT-DEL key combination.

If you use DOS, this will simply shut everything down and reboot the computer, just like hitting the reset button on the front of your computer. You lose your unsaved information, and that is the end of the drama.

If you run Windows 3.1 or Windows for Workgroups 3.11 (WFW), you can at least hope for more than a simple reboot. When you tap the big three key combination, a blue screen will appear. Sometimes Windows will identify which application has stopped with a message such as "MSWORD.EXE has stopped responding to the system." It will even give you the option to press ENTER and end only that particular application. If all goes well, when you close the frozen program, the whole system may come back to life.

You are more likely, however, to find that the operating system could not figure out what the problem was, in which case your screen will read, "WARNING! The system is either busy or has become unstable. You can wait and see if your system becomes available again and continue working or you can restart your computer." After you receive this screen, if you hit CTRL-ALT-DEL again, your computer will shut down and reboot. If you hit any other key, you will leave the blue screen and return to where you started, staring at a frozen screen, waiting for your system to return on its own. Unfortunately, Windows 3.1 and WFW are rather inconsistent when it comes to these problems, so you never know what kind of response you'll get, Ahrens says.

"We started to put a little more intelligence in there (Windows 3.1 and WFW)," he says. "But it was just a precursor to what you see in Windows 95."

Windows 95 Saves The Day

Tapping the three keys in Win95 offers a significantly better chance of a happy ending. The operating system opens a Close Program window that contains a list of the applications running on your computer. It also notes any applications that have stopped responding. After looking at the list, you have three options.

The first is to click the End Task button for the program (or programs) of your choice. Most of the time, if you close the frozen program, your computer will resume operation. Then you can get back to work in another program, or you can try to reopen the original program.

The second option lets you shut down the whole system and start over from the beginning.

The last option lets you cancel out of the Close Program window and go back to square one. While this might not sound like much of an option, it can be more useful than you might think, Ahrens says.

The Cancel button is great for people who go for the three keys before they have explored all other options, he says. One of those options is simply to wait a while, to see if your computer comes back on its own. Another is to go back and minimize some windows, move some things around, and look to make sure you haven't accidentally covered up a dialog box or something that needs a reply.

While you might be a little frustrated with yourself if you find that you simply covered up a window, it beats having to close your program or shut down the system and risk losing data. ●

by Tom Mainelli

Adding Fonts

To Windows Applications

No matter how content you are with the current look of your letters, it's likely that, at some point, you'll want to add some new fonts to your Windows applications. Whether these fonts came with a new printer or were bought as separate font packages, they can be added easily to your applications. (For information on some of the font packages available for Windows, see "Putting On A Different 'Face'" in this issue.)

New fonts are added to Windows 3.1 through the Control Panel, located in the Program Manager's Main program group. Double-click the Fonts icon, and the Fonts dialog box will appear. A list of the fonts currently installed on your system will be at the left side of the dialog box. To add a new font, choose the Add button at the right side of the box. Open the Drives list, and select the drive that contains the fonts you want to add. This will probably be either your 3.5-inch diskette drive (usually the A: drive) or your CD-ROM drive (usually the D: drive). It's possible, however, that your drives will be labeled differently or that you'll be moving font files into Windows from another directory on your hard drive, which is usually the C: drive. (Unless you're moving the fonts from elsewhere on your hard drive, make sure you've put the diskette or CD-ROM containing the new fonts in the appropriate drive prior to this step, or there will be no fonts available to be added.) Next, select the directory where the fonts are located.

From the List Of Fonts box, shown at the right on this page, select the font or fonts you want to add. You can add more than one font at a time by selecting multiple fonts from this list. You also can add every font in the list by choosing the Select All button. (If you want to add several fonts from different directories, you may find it easier to move them into one directory so you can use the Select All button instead of adding them one at a time.) After selecting the fonts you want to add, click the OK button. If you don't want to set TrueType options, which affect which fonts will be available in your applications, choose the Close button.

Setting TrueType Options

To set TrueType font options, choose the TrueType button in the Fonts dialog box. This will take you to the TrueType dialog box. To turn off TrueType fonts in your applications, clear the Enable TrueType Fonts check box by clicking it. No TrueType fonts will appear on the list of available fonts in your Windows applications. To use only TrueType fonts in your Windows applications, select the Show Only TrueType Fonts In Applications check box, then click OK.

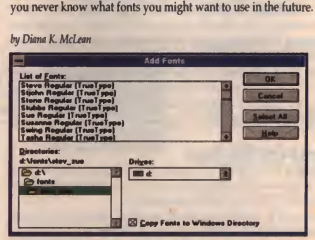
Though choosing either of those options removes some fonts from the list of fonts in your Windows applications, it doesn't mean that you have removed the fonts from memory. You still can view and print documents that contain those fonts. You just won't be able to type using them unless you add them back to the list of available fonts in Control Panel.

Removing Fonts

After installing new fonts, you may find that there are some you never use and decide that you'd rather have the space they take up available for other uses. If you no longer want to keep a certain font in memory, you can remove it to free that memory. From the Installed Fonts list, select the font you want to remove. A sample of that font will be displayed in the Sample area, and the amount of memory the font takes up will be listed at the bottom of the window. Check to be sure that this is the font you intended to remove, then choose the Remove button.

To remove a font from the source disk as well as from memory, select the Delete Font File From Disk check box. Then choose the Yes (or Yes To All, if you're removing several fonts) button. We suggest, however, that you leave fonts on their source disks rather than erasing them, as you never know what fonts you might want to use in the future. ●

by Diana K. McLean



Windows makes it easy to add fonts to your system.

Colors By Fuji

(Of course.)

Hey, who turned on the color in the computer products aisle? Fuji. Who else? Their 3.5" 2HD Formatted Rainbow Packs are a brighter, more efficient way to organize your data. And they're a lot more fun, too, of course.

Computer Products

Dealing With DLLs

WFW, you may find some applications that have jumped the gun on Win95 and have parts of themselves that work with 32-bit DLLs. You don't have to "load" DLL files because the programs requiring them load the DLL files on an "as-needed" basis.

One of the major strengths of Windows (whether 3.1 or 95) is its extensibility. **Dynamic link libraries (DLLs)** are vital components of that feature. DLLs are Windows **executable files**, which can be run to perform instructions that enable multiple applications to share code and resources for performing tasks. A basic knowledge of DLLs is useful, especially when reading cryptic, on-screen error messages.

A simple analogy may be made by comparing a DLL to a turbocharger in a car. The turbocharger is available all the time, but it's activated only when its specialized function (extra acceleration) is needed. This lets car designers design other parts of the car much the same as they would without the turbocharger installed. The designer doesn't have to worry about the details of the turbocharger's design and can use off-the-shelf engines in the car. As long as everything matches up, you can change to any one of a variety of engines using the same turbocharger without a problem.

DLL files usually have a .DLL extension but also may appear as executable files displaying the familiar .EXE extension. DLLs maintain Windows memory conservation with their ability to load a module into memory when needed and then unload it when the application is finished processing. An advantage for programmers is the possibility of updating the DLL without the need to change applications using the DLL. This works as long as the base interface of the DLL does not change.

Three components make up the core of Windows 3.1, Windows for Workgroups 3.11 (WFW), and Windows 95: User (User.exe), Kernel (Krnelx86.exe), and Graphics Device Interface (Gdi.exe). Working in 16-bit architecture, Windows 3.1 and WFW include these Windows extensions: Commdlg.dll, Ddeml.dll, and Mmsystem.dll. Comdlg.dll supports all of the user interface's standard dialog boxes, in which users click buttons; Ddeml.dll manages **Dynamic Data Exchange (DDE)** sessions (which share information among programs); and Mmsystem.dll supports multimedia.

Because Win95 is a more powerful, 32-bit operating system, it uses two sets of DLLs: one for servicing 16-bit applications and one for 32-bit applications. Wherever possible (and applicable), Win95 uses 32-bit code for improving performance. Win95 keeps 16-bit code to maintain backward compatibility with programs designed for Windows 3.x. Even in

Problems With DLLs

General Protection Faults (GPFs) are the bane of the Windows user. They occur when programs try to access restricted memory areas. GPFs often completely lock you out of Windows, forcing you to restart the PC and lose any unsaved information. They always crop up when least expected and at a time, or so it seems, they can do the most harm. Since the causes of GPFs are nearly impossible to track down, you may see confusing messages and information letting you know which application is affected. Often the offender is a DLL file that is behaving improperly, or the application may not be accessing it correctly.

For example, sometimes a DLL will open a file and leave it open after exiting the parent application. When a file is open, the application creates a file handle, and since a DLL does not have task database (TDB), it is stored in the TDB of the application calling the DLL. When the application closes, the handle is freed and is no longer valid, so any future access to the handle results in an error.

Another DLL issue arises when applications, during their installation processes, replace existing DLLs for compatibility reasons. The first indication of an incorrect DLL version is erratic behavior or failure to run in applications accessing it. The symptoms depend upon the function of the DLL. One example of a faulty DLL file appears when text or graphics are absent or garbled in some dialog boxes while working perfectly in others. Usually, though, Windows 3.1 and WFW can cope with applications overwriting system files and display no adverse behavior.

With Win95, the startup process changed so that system files are consolidated to shorten the startup process. With Win95, if an application attempts to overwrite a system file that is no longer used, Win95 allows the file to copy but does not use it. After an application installs, Win95 looks for files that are commonly overwritten by setup programs. If any are found, a dialog box appears letting you restore the files. In the case where an application must run with a replacement file, you can add the needed file to the Windows subdirectory SYSTEM\VMM32 located in the WINDOWS directory.

DLLs are one of the components that make Windows attractive for developers and users alike. For the developers, it reduces the amount of code they must write and gives them definite guidelines to follow. For the users, it creates a nearly standard interface so the task of moving from one application to another is easier. ●

by Richard F. Huber

Customizing OS/2 Warp's LaunchPad

It doesn't take OS/2 Warp users very long to learn that the LaunchPad is essential to their systems. It holds the **objects** and buttons that you use most often, such as the printer object, diskette drive object, and Shredder object, which is similar to the Macintosh trash can and Windows 95 Recycle Bin. (Objects are anything you use to perform a task, such as text or graphics, or a representation of a file that starts a program.) If you want to work efficiently, you should customize the LaunchPad to suit the way you work. Do this by adding or removing object buttons, creating and adding to drawers, and even attaching or detaching drawers.

The standard LaunchPad setup already includes some of the most commonly used objects. The buttons on the left side keep your computer secure when you step away from your desk (Lockup), shut down your computer when you are done for the day (Shut Down), locate programs or documents on the desktop (Find), and display a list of everything you have open on the desktop (Window List).

You can add new objects between existing ones on the LaunchPad or at either end of the row of objects. The LaunchPad will expand automatically to accommodate objects you add.

To add an object to your LaunchPad, click the object with your right mouse button, and drag the object across the LaunchPad until a black bar appears indicating where the object will be added once you release it. By dragging and dropping an object onto the LaunchPad, you create a **shadow** (copy) of the object in the LlaunchPad. This does not remove the object itself from its original location on the desktop. Adding the shadow to the LaunchPad automatically creates an object icon and a drawer push button. Just left-click this new object icon button on the LaunchPad to open the object.

Designing Drawers

LaunchPad drawers are simply extensions that increase the capacity of the LaunchPad palette. The drawers are useful places to store objects that are related to the LaunchPad object below the drawer but that you may not use as often. There are no restrictions on the objects you can put in a drawer. You can mix different types of objects within a drawer if you want.

A drawer will not open until it contains an object. You can create a drawer above any object on the LaunchPad by dragging an object with the right mouse button to the drawer push button, located above the particular object on the LaunchPad. Once a drawer is created, you can open and close it by left-clicking the drawer button. When a closed drawer contains an object, the arrow on the drawer button points up. When the drawer is open, the arrow points down. When a drawer is empty, the button is blank.

You can disconnect a drawer from the LaunchPad by opening the drawer and left-clicking on it and dragging it away from the LaunchPad on the desktop. (Left-click the edge of the drawer because left-clicking the button in the drawer opens the object.) When a drawer is detached, it will not move with the LaunchPad. To reattach a drawer to the LaunchPad, close the drawer by left-clicking the drawer button. Then open the drawer by left-clicking the button again.

To add an object to a drawer, open the drawer by clicking the arrow above the icon, and drag the object across the drawer with the right mouse button until the black bar appears again. Then release the mouse button. You can add a new object between existing objects in the drawer or to either end of the row of objects in the drawer. Just as the LaunchPad expands automatically for the new object you add, so does the drawer. You also can add an object to a closed drawer just by dragging the object with the right mouse button to the drawer push button. This will automatically place the object at the end of the drawer farthest away from the LaunchPad.

To delete an object from your LaunchPad, drag the object to the Shredder on the LaunchPad with the right mouse button. Dragging the object to the Shredder deletes only the shadow of the object from the LaunchPad, leaving the original in its original location on your desktop. If you delete an object from the LaunchPad and the object has a drawer associated with it, the drawer object that is nearest to the LaunchPad will take the place of the deleted object icon on the LaunchPad.

You can delete an object from a drawer by dragging the object to the Shredder with the right mouse button. Again, this does not delete the original object, just the shadow.

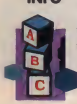
In the long run, taking the time to customize your LaunchPad is worth the effort. It's easy to do and will save you time by providing added convenience. ●

by Angela Gay

Basic Training

Regardless of the operating system you choose, there are a few elementary functions you should understand. This monthly section is your one-stop guide to learning these crucial first steps in DOS, OS/2 Warp, Windows 3.1, and Windows 95. Use it to learn your operating system and see whether others offer a smarter way to work.

BASIC INFO



For several months, we've provided how-tos for different functions in the three main operating systems and the Windows 3.1 operating environment. In order to have adequate background information for these tasks, it's a good idea to periodically review these elementary facts on each system:

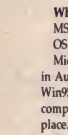
How much memory and storage does each system use?

MS-DOS 6.22—512KB RAM, 6.1MB hard drive space
OS/2 Warp—4MB RAM, 35MB-50MB hard drive space
Windows 3.1—4MB RAM, 35MB-50MB hard drive space
Windows 95—8MB RAM, 35MB-50MB hard drive space

What's the latest version?

MS-DOS—Version 6.22
OS/2 Warp—Version 3, released in 1994
Microsoft Windows—Win95 is the latest version, released in August 1995. Right now, there are enough users of both Win95 and Windows 3.1 that the two versions may look like competitors, but Windows 3.1 is fading from the marketplace. Microsoft's goal is for all users to eventually upgrade to Win95.

TEACH YOUR PC TO SPEAK



Your PC can say "Hello" when you sign on and bid you farewell when you sign off . . . . Well, maybe not in so many words, but with the help of speakers or headphones, you can hear your computer communicating with sound. You can use your operating system to assign sounds to different events (incoming E-mail, closing an application, etc.) or politely ask it to remain silent.

DOS

This feature is not applicable to DOS.

OS/2 Warp

The Sound utility may be found in two places. Either double left-click OS/2 System, then select System Setup, or open the Multimedia folder. Double left-click the Sound icon to open the utility. Within the Sound - Settings window, the System Events are listed in the top windows; Sound Files are listed below. In order to sample a sound, highlight the Try It line in the System Events list, highlight a sound file, and left-click the Play button. The Try-It option must be highlighted for the sound preview. If the Sound File box does not contain a sound you would like to use, explore the directories that appear in the list underneath the .WAV files in the Sound file column. Double left-click a directory name to open it. If there are any .WAV files, they'll appear at the top of the list. To back up to a parent directory, double left-click the [..] line.

Once you've found an appropriate sound file, highlight both the sound and the event. OS/2 Warp contains a volume control utility that lets users control the event sounds from within the operating system. Left-click the plus sign to the right of the dial to turn the volume up; left-click the minus sign to the left to turn it down. The Enabling Sounds box turns the system events sounds on and off, so make sure it's marked before exiting. The Apply Volume To All Sounds box controls the volume level uniformly.

Windows 3.1

From the Program Manager, open the Main program group, and select the Control Panel icon. Double-click the Sound icon to open this utility. The dialog box contains two columns: Events on the left and Files on the right. Events contains all operating system functions to which you can assign sounds, i.e. Default Beep, Windows Exit, Windows Start, etc. Files lists all the sound options possible; a user's setup may affect the number of .WAV files available.

To test a sound, highlight one that looks interesting, then click the Test button. Once you've decided on a sound, simply highlight the event you want it to accompany, then click the sound you want to correspond. If it's silence you crave, select the <none> option for each event. To achieve complete quiet in one simple step, click the Enable System Sounds box underneath the two columns to remove the X. This box must be enabled (with the X appearing) for sounds to occur.

You may draw on .WAV files from other directories to use as event sounds. (To back up to the parent directory, left-click the [..].) All accessible files and directories are listed below the .WAV files specifically designed for event sounds. Left-click a directory name to open it. If there are any .WAV files inside,

they'll appear at the top of the list. To change source drives, select a drive from the bottom of the list.

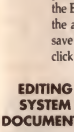
■ Windows 95

In Win95, you can access the Control Panel in one of two ways: Double left-click the My Computer icon, or highlight Settings in the Start menu. Open the Control Panel, and select the Sounds icon. Win95 lists the possible Events by the directory they're contained in. Possible sound accompaniments are listed in a dialog box below.

To view the full list of sounds, left-click the down arrow to the right of the dialog box. Select one of these options. If the list of sounds doesn't contain an option that strikes your fancy, left-click the Browse button under the Name dialog box. Begin the Browse by selecting the directory to scan. Left-click the down arrow to the right of the box entitled Look In. Select a source drive, i.e. A:, C:, My Computer, etc. Explore the file folders looking for .WAV files. The Files Of Type box should show Sounds (*.wav). If it doesn't, left-click the down arrow, and select that option. The large display box then will automatically show only .WAV files.

When you find a .WAV file, highlight the file name, and left-click the Preview button to see if it contains an appropriate sound. Once you've found a suitable sound, highlight the file, and left-click OK. The sound you select also may be previewed from the Sounds Properties box. Once you have the Events matched to the Sounds you prefer, you may save the arrangement as a Scheme for future readjustments. To save a scheme, left-click Save As, type in a title, and left-click OK.

EDITING SYSTEM DOCUMENTS



To manipulate some of the functions your system performs automatically, such as booting directly to Windows and bypassing the DOS prompt, you must edit the commands in the system documents. System documents such as Autoexec.bat, a DOS document that orchestrates the startup procedure, contain commands that fine-tune your operating system's activities.

■ DOS

At the C> prompt, type **edit** followed by the name of the system file to be edited, such as **edit autoexec.bat**. The EDIT command will take you to a text editor that resembles a word processor. Edit the commands as you would in a word processor. Move around using the arrow keys. Type in text to add, and delete using the DELETE key. When you've finished, be sure to save your changes before closing the file. Open the File menu, select Save, and press ENTER. Once the changes are saved, exit the text editor by choosing Exit from the File menu.

■ OS/2 Warp

Double left-click the Templates folder, and select Data File. Once in the OS/2 System Editor, left-click File, and select Open. Select All Files (*.*) from the Type Of File box, and select the drive or directory containing the desired file. Left-click the file to be modified, and left-click the Open button. Once the file has been opened, edit it as you would a document in a word processor. When all the adjustments have been made, remember to save your changes before exiting. Save is located in the File menu. Left-click in the upper left-hand corner to activate the pull-down menu, and select Close.

■ Windows 3.1

In Windows 3.1, there are two utilities you may use to edit system files. The easiest to use is Notepad. To access Notepad, open the Accessories program group, and select the Notepad utility. Click the File menu, then Open. In the Open window, change the List Files Of Type by clicking the arrow to the right of the box. Choose the All Files (*.*) option. Change the directory in the window on the right by double-clicking one, i.e. C:\. With the appropriate drive open, select the desired file from the File Name window, and click OK. Edit the file as you would in a word processor. Move around using the arrow keys. Type in text you want to add, and delete using the DELETE key. When you've finished, be sure to save your changes before closing the file. Select the File menu, select Save, and press ENTER. Once the changes are saved, exit the text editor by choosing Exit from the File menu.

The Write applet also lets you make changes to system files, but the process contains an extra step. Write is located in the Accessories program group with Notepad. It looks like Notepad and uses the same steps, except for one. After you've selected the file you want to modify, Write will prompt you to convert it. You won't need to convert anything; simply make your adjustments. Then save and exit as you would in the Notepad utility.

■ Windows 95

Like Windows 3.1, Win95 contains two utilities that will edit system files: Notepad and WordPad. WordPad is like a full-fledged word processor, so Notepad is the easier to use for editing system files. Access these utilities by left-clicking the Start button, highlighting Programs, and selecting Accessories. Both utilities are located in this section. Notepad runs easier and has fewer extra functions. Open the file to be modified. To do this, open the File menu, select Open, select the drive to be accessed (Look In), and sift through the files and directories, or type the name of the file in the File Name box. Left-click the Open button once the file has been selected. Make the necessary changes, save, and exit the file.

WordPad has a different look, but it functions the same as Notepad. The largest difference is the presence of the button bar. Whether you use the button bar or the pull-down File menu, the functional steps are the same as those for Notepad. ●

by Elizabeth Panska

Putting On A Different 'Face

Written words have long been used as a personal representative when we are unable to speak in person. The world of communication is changing and, in ways, shrinking. Though face-to-face discourse is many times impossible, our "written" communication is traveling new places through new methods. Without being able to smile and extend a hand to shake, taking care in all aspects of the appearance of a document is that much more important.

Reportedly, experts can tell quite a bit about someone's personality simply from handwriting. But not many documents, even letters, are handwritten anymore because typing a document on the computer saves editing time and usually turns out to be more legible.

Even though true personality insights may have been lost with the advent of word processing and all the fancy font packages that go with them, users now can assume a new identity or voice with each line, word, or letter. Our representation range can expand to fit the different facets of daily life, such as:

The Business Executive
Ghost Writer
COMPUTER WIZ
graphic artist
Romance Novelist

With a versatility usually unattainable with our own hand, fonts add personality to our documents. The variety font packages on the market today give us the chance to more visibly display many sides in each form or document.

Font packages come in many shapes and sizes, from the all-purpose font encyclopedia to the smaller, more specialized kits. Most fonts come in large software packages that let users install an individual font as needed. The terms "typeface" and "font" are technically different. Arial, for example, is a typeface, while Arial Bold and Arial Bold Italic are fonts. These terms, however, are generally used interchangeably. (See "From Point Size To PostScript" in this issue.) Thus, be careful when buying a font package with only large numbers in mind. When the package says "2,000 fonts," remember that you may be getting 2,000 fonts that differ only slightly, such as Arial Bold and Arial Bold Italic.

Packages may be compatible with both Windows 3.1 and Windows 95, but there are small differences in the operating systems' Install Fonts utilities that may make packages designed for Windows 3.1 more difficult to use on Win95. Specifically, the Sample window in Windows 3.1, which lets users preview a font before installation, is unavailable in Win95.

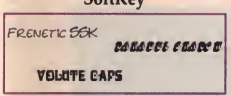
Fonts come in two standards, TrueType and PostScript. TrueType is a standard built into the operating system that eases potential installation and compatibility problems and renders printed fonts exactly as seen onscreen. PostScript, also known as Type 1, is a standard used for both fonts and graphics. The advantages of PostScript are more elaborate manipulations and a more precise quality. Many packages offer both TrueType and PostScript fonts.

Several larger packages contain foreign language fonts. Remember: A font package is not a translation utility. You will need to know the language and the phonetics to be able to use these fonts.

The Roundup

When you go to buy a font package, consider the products from these leading companies.

SoftKey



Key Fonts Pro 3003, a CD-ROM for Win95 that is also compatible with Windows 3.1, is a good all-purpose desktop publishing supplement. This set contains everything from a neat, curly script to a sloppy spider print to big, round, bold letters to flower borders. The package also contains hundreds of foreign language fonts, everything from Arabic to Zaynin. Most of the fonts are TrueType, but the package also contains a limited selection of PostScript fonts.

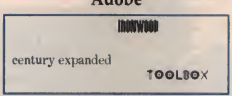
The Key Fonts Pro 3003 interface is extremely easy to use, listing all fonts with a one-line sample in the initial directory. An enlarged sample of each typeface is readily available on a split screen for a better, more detailed look. To make sure the font is exactly what you're looking at, you can send them to the printer individually prior installation. After selection, installation takes only a double-click.

The fonts are easily manipulated once they're installed. In addition to the number of odd variations you can select from the font list itself, you can type these fonts with bold, italics, or underlined characteristics, just as you would those packaged on your word processor or desktop publisher. The specialty fonts can be easily mixed and matched with your regular typeface.

The variety and versatility of the typefaces available in Key Fonts Pro 3003 make the package a good, all-purpose word processing or desktop publishing enhancement. One drawback is the lack of a keyboard guide for the nonalphabetical fonts. You can make your own guide by typing letters in alphabetical order, printing them out, and writing the alphabetical correspondents underneath them. This step might seem a little time-consuming, but it will save you time that could be spent playing hit and miss with graphics in your document.

Key Fonts Pro 3003
$29.43 (street)
SoftKey
(800) 323-8088
(617) 494-1200

Adobe



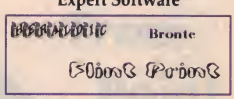
Adobe offers several font packages to satisfy different purposes and price ranges. *Adobe Type Basics* includes 65 of the most basic PostScript typefaces and symbols, while *Adobe Wild Type* contains Adobe's more original and artistic typefaces including Critter, Mythos, and Rad. If you're looking only for a few of the basics, Adobe also offers *Adobe Value Pack*, which contains 30 of the most popular typefaces. All three packages include *Adobe Type Manager* (ATM) software, which lets buyers use Type 1 fonts on non-PostScript printers.

For the user with ever-changing needs, the most economical way to purchase Adobe fonts is through the *Type On Call* package. Type On Call is a CD-ROM listing of 2,000 Adobe fonts. The user can look at samples of the various fonts, choose a package that contains the desired typefaces, and call Adobe to purchase that set. Adobe gives the user the access codes to unlock those fonts, which then can be downloaded onto the user's PC. The initial purchase includes 30 Adobe typefaces with access codes to unlock an additional two from a selection of eight of the remaining packages.

The Type On Call directory can be a little frustrating. Unless you've dealt with fonts fairly extensively and have a pretty good idea what you're looking for, the perfect font may elude you for hours on end. The typefaces are neatly listed in alphabetical order according to family, designer, package, or classification, but unless you highlight a specific font, samples aren't displayed. Having to point and click to see a sample of a particular font may not seem like much of an effort, but when scrolling through approximately 2,000 font packages, the hunt-and-peck method might be a little too time-consuming.

Adobe Type Basics ($99 street)
Adobe Type On Call ($49)
Adobe Value Pack ($60)
Adobe Wild Type ($39)
Adobe Systems Inc.
(800) 642-3623
(415) 961-4400

Expert Software



Expert offers a number of font and typeface packages. *Typecase* provides 230 TrueType fonts and serves as a fair addition to a word processing library. The fonts provided in this package really are just basics, with a few script typefaces, a few serifs, a few sans serifs, and a few icons. Because Typecase contains only TrueType fonts, it's not practical for serious desktop publishers. It could, however, be a nice supplement for users who just want a little something new. One drawback is that Typecase is formatted for Windows 3.1, which means no font preview before installation for Win95 users.

The programs *CD Fonts* and *2,000 Fonts* are very similar. CD Fonts contains 1,500 different fonts, and 2,000 Fonts contains an additional 500. Both programs have both TrueType and PostScript Type 1 fonts and are formatted for Windows 3.1, making viewing the packages on Win95 a little difficult.

The best offering for either Win95 or Windows 3.1 is the *Typecase 2001* conglomeration. The complete 2001 font package is presented in a well-organized, explicit interface. In addition to the typical alphabetical listing, Expert Software breaks the number of TrueType and PostScript fonts down into 11 easily accessible categories from Formal Fonts to Fonts Around The World to Novelty Fonts. Some of the category titles are descriptive but not necessarily a good identifier for the fonts inside. Without first doing a little exploration, for example, you're left wondering whether you'll find Aluminum Shred in Cutting-Edge or Novelty Fonts.

The CD-ROM contains a complete desktop publishing package, with everything from the traditional fonts for business-related documents or black-tie party invitations to more off-the-wall creative ones for dressing up documents.

One glitch in the ease and usability of the total package is the installation process. Instead of following a simple point-and-click installation, the user must write down the names of the fonts to be downloaded to the hard drive, exit Typecase 2001, and install the chosen fonts through the Fonts utility in the Control Panel. The inconvenience is tempered by the How To Install Fonts tutorial offered on the interface.

CD Fonts
2000 Fonts
$14.95 (suggested retail)
Expert Software Inc.
(800) 759-2562
(305) 567-9990

Typecase CD-ROM ($19.93 street)
Typecase 2001 ($14.23)
SWFTE International Ltd. (subsidiary of Expert Software)
(800) 237-9383
(302) 234-1740

Bitstream

INFORMAL BLACK BT

Kuptral BT

Bitstream packages its typefaces in user-specific bunches. The series *Bitstream Type Essentials* consists of four products, each designated for a particular desktop publishing job. Type Essentials is broken down into four categories: Headlines; Letters, Memos & Faxes; Newsletters, Brochures & Announcements; and Spreadsheets, Graphs & Presentations. Each package has between seven and 13 typefaces in four formats: PostScript Type 1, TrueType, Bitstream Speedo, and Fontware. Keep in mind that these packages are put together according to what Bitstream would suggest you use for each document; make sure the fonts contained in each group are what *you* want.

FaceLift for Windows contains 16 fonts that may be manipulated for special effects. The package as a whole seems a little pricey for only 16 typefaces. The FaceLift family includes *FaceLift for WordPerfect*, the only product we saw designed specifically for *WordPerfect for Windows*. Bitstream also produces a package specifically for *WordPerfect for DOS*.

To let you buy one package and keep your possibilities open, *Bitstream Type Treasury* packs 1,001 PostScript Type 1 fonts and 40 TrueType fonts on one CD-ROM. As in Adobe's Type On Call, the typefaces are all safely locked away until the user selects a package and calls Bitstream to purchase the font to be unlocked and downloaded. Users may download six free typefaces from a selected list of 11.

Type Essentials:
Headlines ($69 suggested retail)
Letters, Memos & Faxes; Newsletters, Brochures & Announcements; Spreadsheets, Graphs & Presentations ($109)
FaceLift for Windows ($99)
FaceLift for WordPerfect ($99)
Bitstream Type Treasury ($69 plus charges to unlock additional typefaces)
Bitstream Inc.
(800) 522-FONT
(617) 497-6222

Although some fonts are standard and you can find similar fonts in each package, each company designs and names its own typefaces. Thus, the number of possible masks to apply to your documents is a little daunting. Remember: Those large font packages are attractive, but you don't need to install all the fonts at once. Install only what you need, and be selective. Fonts take up quite a bit of hard drive space. Though putting on a different 'face can be addictive, assuming all those personalities can make things a little crowded. ●

by Elizabeth Panska

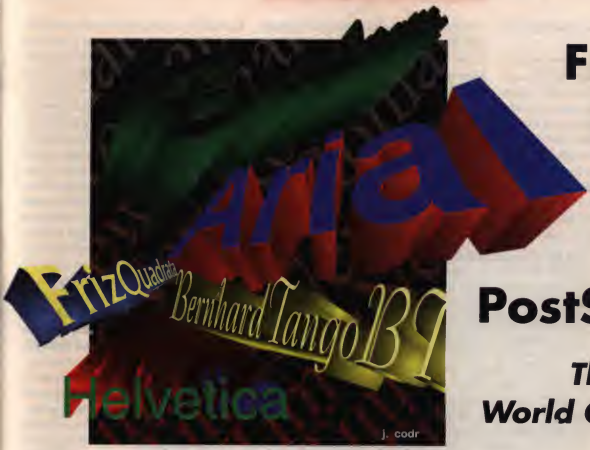
Far-Out Fonts

In addition to the font packages used to enhance the average letter, advertisement, brochure, or other desktop publishing documents, there are many specialty fonts that cover some of the slightly more unusual uses.

Deniart Systems (416/941-0919) has put together a series of historical symbol fonts. Each package is accompanied by a translation guide, so you may use the graphic images for aesthetic purposes. You also can use these fonts to put your message in a graphical code. Packages include *Magick & Mystic*, *Signals & Signs*, *Ancient Writings*, *Meso Americano*, *Alchemy Symbols*, *Castles & Shields*, and three *Egyptian Hieroglyphics* packages. Signals & Signs contains codes still used today, such as the Braille Alphabet, American Sign Alphabet, Morse Code, and Semaphore Code. Whether you want to translate into more difficult-to-find languages or are looking for representative graphics art, the Deniart Systems series contains some graphic images and typefaces that probably aren't included in the typical font conglomeration. The sets are accompanied by booklets that include any necessary translation information, character maps to help users place their fingers on the appropriate keys, and the necessary pronunciation guides.

Signature Software (800/925-8840, 503/386-2221) may have a font that needs a little translating as well. *Personal Font* is a font made up of *your* handwriting. Even though typewritten letters may be easier to edit and computers simplify sending a Christmas letter to 40 close family and friends, the obviously-not-you computer font is not very personal. Signature Software gathers a sample of your handwriting on a form and from the sample, creates a font consisting of your own handwriting. This may make computerized form letters more personal, but it may also defeat one of the purposes of typing those letters. A good rule of thumb: If you're proud of your handwriting but generate computerized letters for ease, the Personal Font, for about $70, could be an interesting alternative. If hiding your handwriting is the reason you type documents in the first place, the Personal Font may not be the way to go. (*For more information on signature fonts, see "Electronic Signatures" in this issue.*)

Expert Software's *Holiday Fonts* contains 11 regular fonts, seven illustrated fonts, and 10 borders to make the package an all-around festive document-making package. The seven illustrated fonts cover several of the major holidays: Easter, Valentine's Day, Christmas, Halloween, Hanukkah, New Year's, and Thanksgiving. Each letter has a little picture corresponding to that particular holiday. The package itself is easy to use, except for the Windows 3.1 restrictions, but with only 18 fonts in its store, Holiday Fonts is limited in its variety of options. For the occasional holiday card, Holiday Fonts by Expert (800/759-2562, 305/567-9990) will do just fine, but the package is not as versatile as it could be. ○



From Point Size To PostScript

The World Of Fonts

The best type is invisible type—well, the kind of type that easily conveys a message and doesn't necessarily leave you wondering what font the designer used. If you've read this far and haven't noticed what font we're using, then the font is working.

Experts say you can use type to generate subtle emotion with a document. The right font can reinforce your message, whereas the wrong one can detract from it. But have you ever stopped to look at all the little pieces that make up a font? To make one font look more formal, authoritative, or modern, someone had to sit down and decide how long to make the descenders, how big to make the loop in the "g," or whether it should use a serif.

In fact, there's a lot more to fonts than meets the eye. Before tackling desktop publishing, take time to learn the technology and terminology the average user should know about fonts, as well as a few typeface tips for your documents.

Typeface Or Font?

Most people have a general idea of what a **font** is. The common conception is that a font is the design of the letters, numerals, punctuation, and other symbols you see on a page, each design with its own slant and thickness. That's partially true.

But if you want to get technical about it, Stefan Wennik, manager of marketing and communications at Bitstream, says the definition is more specific and is often confused with **typeface**, the more precise term for a text design. Common typefaces include Times Roman, Bookshelf, and Courier. You also can have **typeface families**, such as the Times Roman family of Times Roman Bold, Times Roman Italic, or Times Roman Bold Italic.

"Each one of those (typefaces) is a design," Wennik says. "Some unlucky person actually sat down and drew those letters. He drew the 'a.' Then he drew the italic 'a,' which is very different from the original and very different from the bold. He didn't make them just a little bit fatter. He actually changed the proportion of the letter, the heights, and things like that to make it look the way he wanted it to look."

So what's a font? A font is a typeface at a particular size, such as Times Roman Bold 12-point. (Letters are measured in **points**: 10-point, 32-point, 122-point, and so forth. A point is actually very small, about 1/72 of an inch, or about the size of one of the pixels that make up the images on your screen.)

So, while a typeface may be Times Roman, a font would be Times Roman 12-point. But don't think you aren't "PC" if you accidentally call a typeface a font, or a font a typeface. The line between the two terms is beginning to fade, Wennik says. In common usage, everyone uses the two words interchangeably, and, if anything, "typeface" is receding from use. If you call Times Roman a font, most users won't hold it against you.

Building Your Library

Even if you've never installed any additional desktop publishing, word processing, or font packages, chances are you already have a few fonts in your possession.

Your operating system, be it Windows or Macintosh, comes with a handful of font files pre-installed. All of these pre-installed fonts are referred to as **resident fonts**.

Dan Mills, manager of type design and production at Adobe, says computer fonts are stored as files, just like the rest of your applications. In order for you to see text on-screen, your computer must have the information on how to create the text design. So the font file

must be stored somewhere in the computer system.

To obtain additional fonts, you can purchase special font software, and most graphics and word processing programs come with a few fonts that you can add to your library. In addition, your printer may include a few of its own resident fonts that you can use. These resident fonts usually complement the resident fonts on the operating system, such as Times Roman or Arial. Some printers include a few other resident fonts that are stored in the printer's read-only memory (ROM), Mills says, and can be installed to the computer's hard drive when you install the printer software drivers. (Drivers are software that helps the operating system work with a specific hardware device such as a printer.) Fonts that match up this way on the hard drive and in the printer memory print a little faster. Mills says that instead of actually sending the fonts along with the document file, all that is sent is a named reference to the font, for instance, "/Times-Roman findfont," which instructs the printer to retrieve the font from its memory.

But regardless of whether the font came from a font package or a word processor, when you install a font, an entry for the font must be added to certain system files, such as the Win.ini file. This lets your video and printer driver software know that they have some new fonts available to them. Fortunately, most font packages take care of this modification for you.

Fonts To Scale

Once you get the fonts on the screen or on paper, you're seeing a **bit-mapped** image, or a set of colored pixels that combine to form an image.

Originally, fonts were stored as bit-mapped files. These **bit-mapped fonts** were made up of colored pixels, typically stored as a bunch of zeroes and ones in a binary file. So when you used a bit-mapped font, the file copied the stored pixels to the screen or the printer. That's easy enough, but the problem was that each font had to be stored in a separate file, Mills says. For instance, you had to have a file for the Times Roman 12-point font, a file for the Times Roman 14-point font, a file for the Times Roman 14-point italics font, a file for the Times Roman 14-point italics bold font, and so on. This could take up quite a bit of hard drive space.

The industry then moved to **outline fonts**, also called scaleable fonts. An outline font does not necessarily store all these pixels. Instead, it stores a sequence of mathematical instructions that draw a smooth, curved outline of the characters' shapes, Mills says. Another component, called a rasterizer, reads the outline font's instructions. It then scales the outline to the desired size, calculates how many and which pixels should appear inside the scaled outline at that size, and colors in the pixels.

Therefore, Wennik says, outline fonts have become the norm for most resident fonts and in almost all add-on programs. They don't take up as much space on your hard drive, and you can draw the font at almost any size without having to install the specific point size on your computer. Windows, however, includes some resident fonts saved as bit maps that are compatible with older applications requiring bit-mapped fonts.

Formats

There's no reason to worry that what you see on-screen won't match what's printed if you're using one of the two technology standards for outline fonts—TrueType and PostScript. With these fonts, What You See Is What You Get, or WYSIWYG.

TrueType was a format originally developed at Apple and first made available in the Macintosh System 7 operating system in 1991. It was later licensed to Microsoft where it was developed further and incorporated into Windows 3.1 the next year.

The great thing about TrueType is that the ability to support or produce TrueType fonts has been built into the operating system, in the Macintosh as well as Windows. Wennik says that means the technology that creates the TrueType outline fonts on your screen and printer is part of the operating system. You don't have to worry about adding a special font creation file or program.

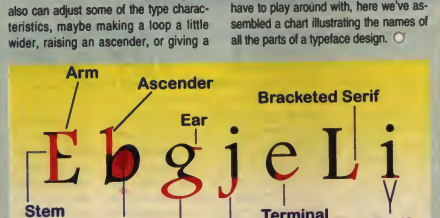
PostScript, on the other hand, is a standard well-known not just for creating fonts but for creating complex graphics and

Type Basics

Many characteristics give fonts different looks—from the ornate to the plain, text-book style. Some fonts are more readable and better for reports and documents. Some are unique or formal and may be better for a logo or invitation.

But how do font designers give their fonts different looks? One of the most common ways to change a font is to add a **serif** or leave the font **sans serif** (without a serif). This serif is a little "foot" or "hat" added to the letters. Designers also can adjust some of the type characteristics, maybe making a loop a little wider, raising an ascender, or giving a jaunty lift to the ear on a *g*. They can change the **pitch** of letters, which is how much horizontal room they get. The pitch may be **fixed**, meaning each letter gets the same amount of room, or it may be **proportional**, so that the spacing depends on the width of the particular character. Finally, they can give letters or numerals a different **weight**, which is the thickness, or a different **style**, such as straight up or italics.

To give you an idea of what designers have to play around with, here we've assembled a chart illustrating the names of all the parts of a typeface design. ○



designs as well. PostScript was a standard developed by Adobe in 1985, originally meant to be used only with PostScript printers. Because PostScript printers cost several hundred dollars more than a regular printer, however, Adobe came up with a new solution for average users.

Adobe Type Manager, or ATM, is an add-on utility program that can render fonts using the PostScript standard on your screen and to non-PostScript printers. Since the introduction of ATM, Mills says, PostScript fonts have taken the name **Type 1**. So when you see fonts labeled Type 1, they are the same as PostScript fonts.

With ATM on your system, Type 1 fonts work virtually identically to TrueType fonts. ATM takes care of everything for you in the background. When you want to select a specific font in your word processor or desktop publishing program, just locate the font selection menu, and choose the font you want. Some fonts even are available in both TrueType and Type 1 standards.

You will, however, notice a slight difference when you install the two different font types. TrueType fonts are easily installed in Windows. Just use the Fonts application within the Control Panel to add new TrueType fonts. (See "Adding Fonts To Windows Applications" in this issue.) To add new PostScript files, you will need to use a control panel in Adobe Type Manager. So you will need to install Adobe Type Manager first in order to help you install the PostScript fonts, Mills says. Ordinarily, ATM is available with any PostScript fonts you purchase. ATM also is available for free with various software from Adobe or from numerous third-party hardware vendors and is now being built into the latest version of the Macintosh operating system.

Each font standard has its advantages and disadvantages. You don't have to worry about having an ATM-type program to use TrueType fonts. The capability is built into the operating system. It's also possible to **embed**, or attach, TrueType fonts into documents so other people can see them without installing the fonts on their system (a possibility we will talk more about later). Wennik says TrueType fonts also have traditionally been a little cheaper than Type 1 fonts, although the prices of those fonts are dropping as well.

But if you're planning to send documents to be printed at a service bureau, be sure to use the PostScript language and Type 1 fonts. The PostScript language is more robust and powerful for handling complex graphics and elaborate page layouts. Therefore, PostScript is far more predominant in the professional publishing market where people are doing design, layout, and production. It can handle the color management issues and those four megabyte graphics files. Also, Type 1 font files are smaller than TrueType fonts, so they take up less room on your hard drive.

"If you're doing the design (of your documents) and then sending them off to be done at high resolution, those service bureaus and printing houses have PostScript equipment, and they don't like TrueType fonts," Wennik says. "If you are just doing home-based desktop publishing on your LaserJet printer, TrueType fonts are easy to use, they're inexpensive, and there are thousands of them available to choose from."

Lending Leeway

Even though there are so many fonts available in the market and they can really spruce up a document, that doesn't mean you can fudge when it comes to "borrowing" fonts.

Just like any software application, fonts are protected by copyright laws. If you buy a program such as *Adobe PageMaker* or *WordPerfect* now by Corel, you buy one license to place that program on your computer—unless, of course, you specifically buy more than one license from the company. The same thing goes with fonts. Someone went to a lot of trouble to design and create the font files.

So before you "lend" your buddy a font to include in a newsletter or in order to see your documents, read over the license agreement for the program you bought the fonts from. You may be violating copyright laws.

Electronic Distribution

But what options do you have if you want to distribute your documents to other computer users electronically? It's no problem to print the document out and let them view it on the printed page; that's certainly allowed. But how about distributing the document to the guy down the hall as an electronic file?

If other users can open the file but don't have the font file on their hard drives, most applications will simply go to some default font that may or may not resemble the font you used. Typically, the document's layout (i.e., line breaks, page breaks, contrasts between regular and bold weights, etc.) will be severely compromised, Mills says. The document may be dramatically thrown off-kilter and won't retain the design you spent hours creating.

Font Management

Along with all the font programs available on store shelves today, you may find another type of package you haven't run across before. **Font management packages** are utilities that help you put your fonts in order.

For about $50 to $80, they can help you group files, and some also let you install and uninstall fonts, preview fonts you may have stored on diskettes or CD-ROM, or print samples. Names such as *FontMinder* by Ares Software, Microsoft's *TrueType Font Assistant* or *FontWorks* by ElseWare help users divide their fonts into smaller groups and then activate or deactivate these groups.

The real target for these programs is a user who does a great deal of desktop publishing and requires hundreds of fonts for different projects. Imagine trying to remember what fonts you used for the subhead of your last report when faced with a list of 500 files. Font management programs group the fonts you might use for a particular newsletter in one group, collect fonts for an office project in another group, or group fonts for company brochures. Or, a desktop publisher working from a home office might group the fonts they regularly use for a school sports schedule and then group the fonts used for a local company's monthly financial report.

Users that have about 20 to 30 fonts in addition to the ones resident on their systems probably aren't in dire need of such a program and can handle grouping fonts on their own by creating font directories and subdirectories. ○

Adobe Type Manager can make a few amends if you are using Type 1 fonts. ATM can assemble a "faux font" on-the-fly that closely matches the original font in size and weight, more precisely matching the original font's widths. This way, the layout will be preserved, although you still may not be able to retain the stylistic look you wanted with the original font, Mills says.

Keeping the look and feel you designed the document with may require that the other users purchase the font files to install on their computers. Or, you may have a couple of other options available to you.

Some applications let you embed fonts within a document for viewing, as we stated earlier. Most Windows word processing and graphics programs can embed TrueType fonts. This little gimmick basically attaches enough of the font's logistics with the document file to let the user at the other end view the document as you've created it, with the fonts, page breaks, and so forth in place. It's not too difficult to do. For instance, to embed fonts in *Microsoft Word*, we selected Options in the Tools menu, and under the Save option, marked Embed TrueType Fonts. When we saved the document with our unique fonts, another user had no problem seeing the document, fonts intact.

Most of the time, when you embed TrueType fonts, the recipient can't edit the file or keep the embedded fonts, making the idea analogous to using fonts to print: Once you've printed the document, you can distribute it anyway you like, and the recipient can read the document, just not edit it. When you close the file, the fonts are gone from your system. These fonts are licensed as **read-only**, Mills says. A few files may indicate to the operating system that they are **read-write**, which means the font will install itself on the recipients' computers so they can keep the font and edit with it. It's up to the vendor and the licensing agreement if the font is read-only or is given away to anyone who wants it as read-write.

PostScript fonts can't be embedded quite as easily. Your only other recourse here may be a **portable document viewer**. Portable document viewers (such as *Adobe Acrobat*, *Envoy* from Corel, and *Common Ground* from Common Ground Software) let you save documents to a new, completely portable format. You can run your document through Envoy, and it will save the document, piece-by-piece, in the new Envoy format. When you send the file, a viewing code travels with the document file, so the other person, equipped with an Envoy viewer, can see the document intact, whether you're using Windows or they're using a Macintosh.

Or, you can use Adobe Acrobat, which is based on a .PDF document format. Using this viewer, you can embed those PostScript fonts so they can be viewed by a recipient with the Acrobat Reader or Acrobat Exchange, Mills says. If the fonts are not embedded with Acrobat, Acrobat will do the same kind of font substitution as ATM.

Tips Of The Trade

Once you start using an assortment of fonts, the habit is to go crazy, using too many fonts. But there are a few font secrets that make documents look more like a professional job than an eyesore. What do experienced font fanatics know that a novice publisher may not? Here are some tips for usage that you may want to keep handy.

- When choosing a font for your company logo or letterhead, try to locate one that best represents your business. It's a good idea to stay away from overly casual or trendy unless that is part of your business. Also try to choose fonts that have extra weights (italic, bold, bold italic) so you can have a little variety. With the thousands of fonts available, you should try to stay away from resident fonts on your operating system or printer.
- Choose a font for the body of a document that is legible and not too flashy. You want people to read your message, not guess what font you used to present it. While many can argue whether serif or sans serif is easiest to read, sans serif can be a little too monotone to read in long lengths, and serif letters have a little more shape to them, making letters more distinctive. Body type is best between 10- and 12-point sizes.
- Choose fonts by looking at most of the characters. You don't want to choose a font because one or two of the characters are striking. They may not retain that striking appearance when put together.
- Use a lighter font if pages are going to be text-intensive. Pick a bolder font if you will be using smaller amounts of text and want it to stand out.
- Avoid using more than two typeface families on a page. One serif and one sans serif are a good mix. Use the sans serif for headlines and the serif for the body as a general rule of thumb.
- Avoid using words in all uppercase because this is difficult to read. Use italics and bold to make words stand out. If you must use all caps, try using a slightly smaller point size so they don't interrupt the text so dramatically.
- Use lowercase numbers when mixing them in lowercase text. (Yes, numbers come in lowercase.) Lowercase numbers have ascenders and descenders.
- When building a font library, start with a good, serif body font, add on a contrasting sans serif font, and add some display fonts that are catching for headlines but that complement your other selections. ○

The Future

The concepts behind fonts and font technology are pretty solid, but as the world travels the Internet and exchanges information, fonts may have to change as well. Currently, most World Wide Web publishing is done in HTML (Hypertext Markup Language) format, which doesn't let you use many typefaces other than Times or Arial, Wennik says. Some people work around this by creating text in graphics programs and saving it as image files. They then put these text images inside HTML files. Unfortunately, image files take longer to download to your screen, and you can't link them to other Web areas. Thus, publishing using fonts on the Internet is pretty sparse, although Adobe, Apple, and Netscape Communications are working on technology that would allow more fonts on the Web.

Keep your eye on the Internet and the field of fonts. As more companies do their marketing and advertising via the Web, they'll want to include their own designs and logos. Expect either Web pages full of graphics font files to take even longer to download, or plan to see more of the portable document viewers built into Internet browsing software. ●

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Getting Started With Desktop Design

Contrary to what your mother told you, sometimes it's OK to cheat.

For instance, it's all right to leave your audience in the dark about how you came up with those cool invitations or that professional-looking brochure. Why do others have to know you did it all yourself on the computer for much less than what it would cost to hire someone to do it for you?

Desktop publishing is the secret of many a small businessperson or home user who looks good on paper, even when they don't have the first clue about design. There's nothing shady about using the tools that are available, especially if you are able to get the exact look you want.

Here we'll let you in on the things you should know to get started with desktop publishing. Along with a few clues on what you can do, we'll familiarize you with a few packages on the software shelf and tell you if you even need a desktop publishing program to begin with.

What Is Desktop Publishing?

About 10 years ago, **desktop publishing** (also known as DTP) meant something entirely different than it does today. It used to be that when you wanted to create a brochure or newsletter—after you'd written the text—the document was out of your hands. The type had to be "set" by a professional typesetter who would place it in columns. If you didn't find any corrections when you got the type back, you'd send it and your photos or graphics to a professional print shop that would do the cutting, pasting, and printing.

Now, it's all done by computer. The desktop in "desktop publishing" is actually the desktop on your screen where you "cut" and "paste" images and text—no professionals required. With the right software, you can drag and drop images across the page or resize graphics as you go. You can place text in columns; add flashy headlines in several types and sizes; attach lines, borders, graphics, photographs, and charts; or wrap text around irregular shapes. You can adjust margins, sizes, or the space between letters to fit the text and images in the space allotted. You can flip photographs, twist text, and take advantage of all sorts of funky features. And it's much easier to perform these tasks when you let the computer do the work.

What's even better is that many desktop publishing programs give you help and advice, so you can get the look you want without spending hours learning all the features and options. Many programs are stocked with layouts for signs, cards, banners, envelopes, letterhead, calendars, brochures, flyers, and newsletters designed by professionals. All of these can be used or customized to make your own documents.

Word Processor vs. Desktop Publisher

Sometimes the best publishing tool is right under your nose. If you have a word processor such as *Microsoft Word* or *WordPerfect*, your

computer is equipped with a number of production possibilities. But there are a few things a desktop publishing program can do that a word processor can't.

If you have an eye for design, the more popular word processing packages let you place text in columns; use fonts in different sizes; add vertical and horizontal lines; apply fancy first letters; import photographs or images; and frame borders around paragraphs, pages, columns, graphics, and text boxes. Features such as Text Art in WordPerfect or Word Art in Word create text effects; for instance, you can style a word in the shape of a wave, a triangle, or an arrow. You also can manipulate text by adjusting the **kerning** (the space between letters) or utilize a Make It Fit feature in WordPerfect that proportions items such as fonts and margins to make a document fit the number of pages you define. Some word processors even include drawing and charting features that let you create your own graphics.

But while you can do many things with your word processor, it may require more patience and familiarity with the program's features to lay something out than a low-end desktop publisher does. Also, you may have to know a little bit about how to lay out the document. Although most word processors come with templates for common documents, such as memos, résumés, calendars, and newsletters, they are extremely basic. Microsoft Word includes a few Wizards that ask you questions, then lay out the template outline for a calendar, agenda, or so on. The templates may include special font styles and tabs and may leave spaces for graphics, but they don't offer much in the way of eye-catching design. And remember that most word processors don't include the advanced features a big-time designer would need, such as four-color separation for reproducing photographs, or use professional color models for indicating the exact shade of the color you need.

Word processors have the features to help you create attractive documents. But the user usually has to do a little more of the design work. The primary function of the word processor is to help you write your documents; therefore, most of its features are created for this end. It has publishing features, but they're a little clunky.

The DTP Dilemma

A desktop publishing program, on the other hand, was created primarily to make your documents look professionally done.

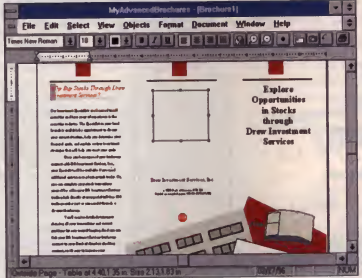
Sorting through the desktop publishing programs really isn't difficult if you know what type of program you need. Desktop publishing software basically has three categories: products for the home, for the small business, and for the high-end graphics designer. The products in each category have different types of features for a different price.

At home. If you need help with things such as banners or greeting cards, the product you want is probably in this category.

Programs such as *Print Shop Ensemble II* by Broderbund have carved out a huge market for themselves by making it easy for the average person to put together banners, signs, calendars, letterhead, envelopes, postcards, greeting cards, certificates, business cards, and labels. Choose the item you want to make, then select from the handful of predesigned layouts or design your own. On-screen elements, such as images and text, are placed in boxes that you can resize by dragging the handles.

Print Shop Ensemble II, for about $80, comes with more than 4,500 graphics—clip art and borders—as well as 20 Photo CD images, although you can add your own photos if you have the right hardware (which we will discuss later). It also includes more than 70 fonts and many text styles. While the program is extremely easy to use, it's somewhat limited. You won't be doing any text kerning here. Some of the clip art and borders tend to be a little "cheesy" and don't quite convey that professional image. Also, there are no features for things a small business may need, such as brochures or flyers.

Corel's *Print House* is another product primarily for the home market, although it has a few business-like features. It has features for greeting cards, certificates, labels, envelopes, calendars, banners, business cards, letterhead, brochures, and signs. As with Print Shop, you can choose from many predesigned layouts, or you can create your own from the 1,000 photos, 100 TrueType fonts, 70 borders, and 5,000 pieces of clip art. Corel, also the maker of the popular graphics program *CorelDRAW!*, incorporates a few more drawing features and even lets you change the color and shape of the clip art bundled with the program. So if you are more into illustrations than design, this might be the



Use a predesigned layout and design in *MyAdvanced-Brochures, Mailers & More* and replace the text with your own information or additional graphics.

program for you. Wizards walk you through the design process, and a polygon tool helps you create multisided objects such as stars or flowers (a tool you won't find in other low-end products). Print House was introduced at the end of 1995 for an introductory price of $30, although the price eventually will jump up to about $85.

Some products in the home category are more specialized. A must for anyone who has a lot of friends, relatives, or clients and is tired of purchasing tons of greeting cards is Micrografx's new *Hallmark Connections Card Studio*. For about $50, you get sharp-looking, personalized cards that look like you bought them from Hallmark. There are also features to create signs and certificates, a built-in calendar to remind you of special events, and specialty card-stock paper you can order from Hallmark.

Small business. Those who want to use desktop publishing software for business may want more than cute cards or nice-looking newsletters. They may need to create a flyer or brochure for their business but still may want to make a banner for personal use. They know all about the customers and their products, so they're the best person to convey the message. They don't, however, know the first thing about graphics design. They need programs that are powerful but easy enough for the "average Joe" to use.

Microsoft Publisher is one of the few mid-range, versatile desktop publishing programs. While it has a few more powerful features than the low-end products, you can't do really advanced things such as four-color separation. Publisher's strongest point is the way it walks users through the design process. First you choose what you want to make: newsletter, flyer, brochure, form, letterhead, sign, business card, greeting card, calendar, envelope, banner, label, résumé, paper airplane, or origami. Then, request the help of a PageWizard. Publisher will ask a few questions about what style or what types of headings you want to include. When it's finished, Publisher will present a layout with your preferences. You either can go with this or customize it even further. If you aren't sure what to do next, Cue Cards can be turned on or off to suggest how to do certain actions. You work with elements on the page in frames, then manipulate the frames around the page—even overlapping them. (For more information on using Publisher, see "Do-It-Yourself Publishing" in this issue.)

TERMS To Know

Leading—The space between lines of text, usually about a few points or so. You indicate the amount of leading needed by figuring about 20% of the point size added to the actual point size. For instance, leading for 10-point type would be 10 points for the type and two points for the leading, so you would indicate a 12-point leading value.

Half-tone—Reproducing or printing a photograph or image using a number of evenly spaced dots. When the dots are blurred together, the images appear in gray. The higher the resolution, the smoother and less spotty the image will appear.

Four-color Separation—A process that splits a photo or image into four layers by the colors that are used in printing: cyan, magenta, yellow, and black. Each color has its own separation showing dots where that color ink should appear. When the printing press prints each color and combines them, the image is created in full-color.

Gutter—The blank space between two facing pages.

TWAIN—A programming interface standard that allows a graphics program to work with a scanner or other device that captures images.

Text Wrap—"Wrapping," or placing text around the edges of a graphical image.

Spot Color—Colors used on a layout, not including photographs or multicolor graphics. Spot color might include a headline in color, a single-color line, or a one-color icon or graphic and can be printed handily by a color inkjet or laser printer. Photos and multicolor graphics usually need four-color separation to look crisp and professional in print.

Kern—To adjust the space between letters, either increasing or decreasing the distance between two letters. Although most typefaces come with a set spacing between letters, occasionally some odd matching may occur and require you to kern the letters to make the words more legible. Kerning also may be used to make or use up space on a page.

Pantone—The Pantone Color Matching system is used by professional graphics designers and printers to keep colors consistent. Each shade is assigned a color, so when a designer picks a specific color, that's what color the printer prints.

PostScript—A type of graphics computer language used in desktop publishing that helps computers and printers more easily produce advanced images and designs. Created by Adobe Systems, PostScript commands describe to the printer what the image should look like, then a **raster image processor** in the printer actually draws the shapes. Therefore, printing PostScript documents requires a special PostScript printer. ●

For about $80, the CD-ROM version of Publisher has all the goodies you'd want, such as fancy first letters, professionally designed extras like pull-quotes and mastheads, Word Art (the same as in Word), automatic kerning, more than 1,000 pieces of clip art, 60 fonts, and 100 publication styles and borders. Of course, you can add your own photos and images or create them in a link to Microsoft Draw. And if you ever want to edit a document and have Microsoft Word, a Word Story Editor feature lets you jump over to Word and edit with its tools, then return to see all your changes in place.

PagePlus, Home/Office Edition by Serif Inc. is probably the best product for the real desktop publishing beginner. For only about $30, this product includes many pop-up aids and page wizards that help you design things such as newsletters, brochures, greeting cards, flyers, menus, fax covers, and music covers by asking you a few questions about your

preferences. You're never left in the dark; a QuickHelp window offers advice on what each tool does, and almost all the tools you'll need surround your document as buttons. A LogoPlus feature helps you create mastheads, headlines, and logos, while a Layout checker makes sure there aren't any formatting or layout problems. The product comes with all the standard features, such as kerning, fancy first letters, a spell checker, and text wrapping. It also includes 1,000 pieces of clip art and borders, 100 fonts, and 50 Photo CD images and support for the *Adobe Acrobat Reader*, which can help you send PagePlus documents to other Acrobat Reader users, even via the Internet. Positioned as a competitor for Publisher, PagePlus' tools are somewhat easier to use, if you can stand some of the Microsoft-bashing comments within the program.

A cheaper option for the small business person may be *MyAdvancedBrochures, Mailers & More* by MySoftware. Priced at about $50, it creates nice-looking brochures, postcards, business cards, letterhead, certificates, menus, labels, and envelopes. Jumpstarts let you choose from predesigned layouts containing many text effects and graphics that you can exchange with your own information. Or you can create your own designs using specialty papers, plain printable backgrounds, or no background. You insert text boxes or graphics wherever you want, resizing them through handles on the sides. Add clip art, photos, and logos if you want. There are also 1,000 clip-art images and 25 TrueType fonts built in, a spell checker, a basic table creator, and a few drawing and border tools.

If you're unsure where to get specialty paper for documents, MyAdvancedBrochures comes with a few sheets and some catalogs bundled inside. Overall, it's a good, basic tool for producing a number of documents for a small business. It has a variety of simple tools and backgrounds you can mix and match for a professional look. You even can design your brochures, business cards, letterhead, and envelopes to match. While you can't do advanced customization, such as kerning or creating special text effects, this product still can be helpful.

The professional designer. At the high end are the professional designers whose business is layout and publishing to create four-color advertisements or publications. Most products in this category require many hours to get familiar with the features and concepts. Each of the programs includes basic cut-and-paste features you find in other programs along with lots of clip art, fonts, and pictures to spruce up documents.

You have more advanced designing features available in a program such as *QuarkXPress*. As you can see, even magazines use this program to lay out their pages.

QuarkXPress 3.32 from Quark is a powerful pioneer in desktop publishing that costs between $575 to $600. It's one of the publishing powerhouses, with seven feature palettes containing commonly used options and intense controls over almost every aspect of the page. To give you an example, QuarkXPress can magnify pages from 10% to 400%; work with several kinds of professional color models; rotate text, pictures, and lines in .001 degree increments; group items to work on them at the same time; run text around or behind items; create reversed text; and kern text in very minute increments.

Each on-screen element is contained in its own box that you can move almost anywhere on-screen. QuarkXPress also supports **OLE (Object Linking and Embedding)**, so you can edit text and graphics created in other OLE applications. For instance, if you want to create a graphic, Quark will take you to Windows Paintbrush where you can create your graphic, then bring it back to your Quark layout. Also impressive are Quark's library palettes, which let you store frequently used items such as graphics or text. The items are displayed as thumbnails in a library palette that you can select and drag onto your page.

Another biggie is *PageMaker* 6.0 by Adobe. For about $600, it also has all the advanced features, such as more than 15 color-matching systems, OLE support to link with other OLE programs, button palettes, support for four-color separation, and library palettes for commonly used items. In addition, PageMaker includes a table editor to create tables within the program, a smaller version of *Adobe Photoshop* for editing photos and images, kerning in minute increments, and magnification of on-screen objects up to 800%. Some on-screen objects even can be viewed (within cyan handles) and not printed, which is a feature you won't find in any of the low-end products. Adobe Acrobat Reader also has been incorporated into the program so you can save files in Acrobat format that can be read by other users who have Acrobat but not PageMaker.

PageMaker's on-screen objects, unlike those in Quark, have little handles around them that you can size by dragging the corners and move around the screen. It also includes an **HTML (Hypertext Markup Language)** plug-in that converts PageMaker documents to the programming language of the World Wide Web. (For a more complete review of PageMaker, see "PageMaker For Windows 95: Part II" in this issue.)

All The Extras

Once you get started with desktop publishing, you may find there are a number of things that you need to really take advantage of all the features available.

For instance, while most desktop publishing programs provide you with numerous clip-art images and fonts, you may want to check the software aisles for any packages with images or typefaces that would make your documents even better.

You also may want to add your own photographs to your documents. If you want to add only a few photos, consider putting them

on Kodak CD at your local developing store and then finding the Kodak *Photo CD Access Plus* software (800/CD-KODAK). Although it's one of the easiest ways to digitize your photos, the cost process can add up, costing about $2 per photo. If you want to use a number of photos now or in the future, a better choice may be to invest in a **scanner.** These devices scan your pictures into a digital format your computer can understand. While flatbed units can cost a little bit more (from several hundred to several thousand dollars), you can scan larger areas more efficiently. You also can find handheld units for a few hundred dollars that will do an adequate job for the average user. If scanners don't interest you, consider a **digital camera.** For a few hundred dollars, these devices take pictures in digital format—no film required—and then transfer them directly to your PC. (For more information about handling pictures on your PC, see the April issue of *PC Novice.*)

Finally, consider a color printer. For most users, a nice color inkjet or laser printer can print the spot color and images they need. However, depending upon the printer's **resolution,** or reproduction quality, the graphics and photos may not reproduce the way you imagine. (A printer's resolution is measured in **dpi,** or **dots per inch.** The higher the dpi, the better the resolution.)

But Libby Johnson McKee, product manager for Microsoft Publisher, says you really don't need hardware extras like an expensive printer if you're using a mid-range product like Publisher. If you are a small businessperson or a home user who wants that polished, professional look for photos and graphics that you may not get with a printer, take your documents to Kinko's or a professional printer. Printing houses can suggest and print on high-quality paper that gives your documents a sharp look. A professional printer is definitely a must if you plan to print any documents using four-color separations, as you find on the high-end desktop publishing packages.

A 486 computer can handle most desktop publishing jobs, McKee says, although a Pentium can do them even better. You will want at least eight **megabytes (MB)** of **random-access memory (RAM)** to really take advantage of all the desktop publishing features. And the more memory you have, the faster things will go. Many desktop publishing packages now are upgrading to Windows 95.

Deciding what desktop publishing package is best for you, or if you even need one to begin with, goes back to evaluating what types of documents you plan to create.

In fact, the new version of Microsoft Publisher is written only for Win95. So if you want to keep up with the changes, you may want to upgrade your computer to Win95, as well. (A megabyte is a unit of computer memory that equals about one million bytes. RAM is a temporary memory storage area used to store files currently in use.)

■ Decisions, Decisions . . .

Deciding what desktop publishing package is best for you, or if you even need one to begin with, goes back to evaluating what types of documents you plan to create.

First of all, is your publishing confined to a few columns, some clip art, and a nice headline? Then maybe a word processor will do. If the design is critical to the message, consider a desktop publisher. Do you want to create posters, letterhead, and newsletters for personal use and need a little help in the design department, or do you need a program with more flexible tools to help you create sharp-looking brochures for your business? In either case, you might be satisfied with Print Shop Ensemble or Microsoft Publisher. Also, do you have the time, talents, and money to put together publications with glossy photos and intricate design capabilities? If the answer is yes, take a closer look at the high-end packages.

It's not really cheating to take advantage of the tools that are on the market today. If you need those tools and don't take advantage of them, however, the only person you are cheating is yourself. ●

by Cindy Krushenisky

For More Information:

Hallmark Connections Card Studio
Micrografx
(800) 733-3729
(214) 234-1769

Microsoft Publisher
Microsoft Corp.
(800) 426-9400
(206) 882-8080

MyAdvancedBrochures, Mailers & More
MySoftware
(800) 325-3508
(415) 473-3600

PageMaker
Adobe Systems
(800) 42-ADOBE
(415) 961-4400

PagePlus Home/Office Edition
Serif Inc.
(603) 889-8650

Print House
Corel Corp.
(800) 772-6735
(613) 728-3733

Print Shop Ensemble II
Broderbund
(800) 521-6263
(415) 382-4400

QuarkXPress
Quark
(800) 788-7835
(303) 894-8888

Do-It-Yourself Publishing

Three Projects Using MS Publisher For Windows 95

Though creating your own publications may sound like an intimidating prospect at first, *Microsoft Publisher for Windows 95* makes it easy. The PageWizard design assistants for each publication mean you just follow their directions to get your desired outcome. We'll walk you step-by-step through three projects that you can use in personal and business settings. We'll start with a simple birthday card and work up to more challenging projects.

NOTE: You also can make publications without help from the design assistants, but we recommend you save that until you've become familiar with the program by using the available help.

■ A Birthday Card

Homemade birthday cards are no longer the specialty of just children with construction paper and crayons. While Publisher makes it easy enough for older children to make cards, the cards it helps create are good enough for adults to be proud of, too. If you're having trouble finding a card that expresses your feelings, you can make your own with Publisher and impress and delight the recipient with a professional-looking, yet personal, card.

Picking a style. To make a card, double left-click the Card & Invitation icon in the PageWizard, which appears when you start Publisher. (You also can left-click once on the icon, then left-click OK.) Next, choose which type of card you want to make. For a birthday card, select Special Occasion, and left-click Next. You'll see thumbnail images of several card templates for various occasions. There are three styles of birthday cards to choose from. To see a slightly larger picture and a brief description of a specific template, left-click it. When you've found the style you want, left-click Next. (We chose the third one, which is described as "Eye-catching, contemporary birthday wishes.")

Adding text. The next dialog box asks whether you'd like to see suggested messages or type your own text. For the card we selected, there are 37 text options to choose from if you don't feel like writing your own. Some are humorous; others are more sentimental. If you left-click the beginning of a text selection, you'll be shown the whole thing, with one window for the front text and another for the inside text. Once you've selected the text you want, left-click Next. If you don't like any of the options, use the back arrow button to go back and write your own text.

If you choose to type your own message, you'll be asked to write the front cover text and then the inside text. The text saying "Your front cover text here" and "Your inside text here" will be deleted as soon as you type your message.

Next you'll choose what to put on the back cover of the card. The default option is a message that says "Made for you by (your name here)." If you want that option, just delete the (your name here), and type your name. If you want to write a different message on the back of the card, just start typing, and the default message will be replaced by your text. If you prefer to leave the back of the card blank, left-click the box next to "No text on the back, thanks." When you've completed one of those steps, left-click Next, then left-click Create It!. The PageWizard takes only a few minutes to put together all of the elements you selected.

The card is now ready to be printed, but you also have the option of making changes to it. If you're ready to print, left-click the circle in front of No in response to Publisher's prompt asking whether you want help adding text and pictures. Then left-click OK, and you'll be shown the finished card. Use the arrow buttons at the bottom of the viewing window to flip the pages of the card. When you've checked it and are ready to print, choose Print from the File menu.

Making changes to the card. If you want to change the card, you can request step-by-step help with the process of adding your own text and pictures by choosing Yes when Publisher asks if you want help, then left-clicking OK. (To move through the step-by-step help, left-click the gray arrow in front of each menu option you want.) You'll be given a list of elements you can get help with, such as Setting Up My Pages, Special Effects, and Adding Designer Objects To My Publication. Left-click one of these choices, and you'll get a list of options.

For example, we chose to get help with special effects and got a list including Text Effects, Borders, Colors And Shading, and Layering. We then chose Borders and asked for help adding a fancy border. We followed Publisher's directions, left-clicking the object we wanted a border around (the art on the front), then choosing Border Art from the Format menu. We chose the Confetti...Streamers border, and left-clicked OK. (In the Border Art dialog box, you also can change the size of the

border before applying it to your card if you want.)

If you want to make more than one change to the card, use the back arrow in the help box at the right of your screen to go back and choose the type of changes you want. When you're done, you can print the card as described above.

To save a card (or any publication), use the Save As option in the File menu. In the Save As dialog box, choose a folder to store the file in, name the file, and left-click Save.

You can follow the same steps to make several kinds of cards, such as Christmas cards, thank-you cards, anniversary cards, or invitations to a company open house or child's birthday party.

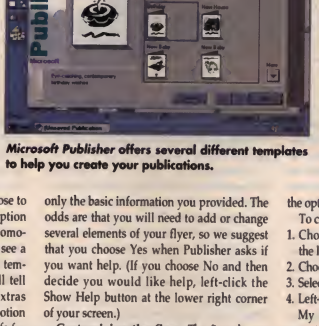
A Flyer

Whether you need a flyer to advertise a garage sale or lost pet, or a mailer to advertise the grand opening of your company, Publisher can help you make it. After you choose the Flyer option, you must decide whether your flyer is for personal, business, school, or other purposes.

The basics. For our example, we chose to make a business flyer. The Business option offers five choices: Grand Opening, Promotion, Sale, Contest, and Trip. Again, to see a larger view and a short description of a template, left-click it. The description will tell you whether that template includes extras such as a mailer or coupons. The Promotion template includes phone number tear-offs for customers to take; all others include a mailer. The Trip option includes a mail-in coupon. As with the card we created, you select the type of publication you want to create by left-clicking it, then left-click Next.

The flyers each have a completed layout, so you won't be asked to add text before the flyer is assembled. After choosing which flyer you want (we chose the Promotion flyer) and going to the next screen, you'll left-click Create It! (the only choice other than to cancel what you've done or go back and change it), and Publisher now will help you add your text to the assembled flyer. The first step is to enter the name of your business. As with the other dialog boxes for entering text, when you type in your own text, the generic label from Publisher (in this case, Business Name) will disappear as you begin to type. After you've entered your business's name, left-click Next, and you'll be asked to enter the phone number. The next piece of information you're asked for is the title of your flyer.

After entering that basic information, you'll be asked whether you want step-by-step help finishing the flyer. If you choose No, Publisher will show you the flyer with only the basic information you provided. The odds are that you will need to add or change several elements of your flyer, so we suggest that you choose Yes when Publisher asks if you want help. (If you choose No and then decide you would like help, left-click the Show Help button at the lower right corner of your screen.)



***Microsoft Publisher* offers several different templates to help you create your publications.**

Customizing the flyer. The first change we made was to add additional text to the flyer. Besides the title, business name, and phone number, we wanted to list what was involved in the promotion.

To add text:

1. Choose Text, Tables, And WordArt from Publisher's help list at the right side of the screen.
2. Choose Text from the list.
3. Left-click Adding Or Replacing Text. Publisher will ask what you want to add or replace; we chose Text In A Text Frame, stating that we wanted to type in the text instead of importing it. Publisher's directions led us through the steps of left-clicking the Text Frame tool on the left toolbar, drawing a text frame using the mouse, and typing in the text.

If the text is too small or too large to fill the area you want, you can make the text fit the text frame with these steps:

1. Use the back arrow to return to the list of help options for text, and choose help with Changing The Size Or Look Of Text Or Its Frame.
2. Choose Change The Size Or Look Of The Characters.
3. Left-click Change Text Size. Publisher shows how to highlight the text with the mouse, then choose a type size in the Size box on the top toolbar. Experiment until you find the size that makes the text fill the text frame.

Next, we changed the clip art on our flyer. The existing art wasn't what we wanted, so we replaced it with a piece of clip art from Publisher's gallery. We looked through the collection of clip-art images at the back of the user's manual, rather than randomly selecting names from the list of available images, until we found one we liked. You also can import into Publisher clip art from other sources, if you don't find the image you want in the Publisher Pictures Gallery. You also have the option of scanning in graphics.

To change the picture on a flyer:

1. Choose Pictures, Lines, And Shapes from the list of help options.
2. Choose Pictures from the list.
3. Select Add A Picture.
4. Left-click Replace One Piece Of Clip Art In My Publication With Another. (There are options to let you import art from other sources as well.) Publisher will tell you to double left-click the picture frame that contains the piece of clip art you want to replace. You'll then see a ClipArt Gallery dialog box, from which you can choose a category to narrow your search and find the specific piece of clip art you want to use.
5. Once you've chosen the art, left-click Insert to put it in the flyer. An Import Options dialog box will appear; you must decide whether you want to change the frame to fit the picture or change the picture to fit the frame. Changing the picture may distort the image, so we chose to change the frame instead.

The last step was to move the art so that it was in the center of the area. To do that, left-click the picture, hold down the mouse button,

and drag the frame to the location you want the picture in.

Finally, we changed the colors of both the background shape and some of the text on our flyer. To change the color of a shape:

1. Left-click Pictures, Lines, And Shapes, then choose Shapes from the list.
2. Choose Change The Look Of A Shape.
3. Left-click Fill The Shape With A Color Or Pattern. Publisher will tell you to left-click the frame or shape to select it, then left-click the Object Color button on the top toolbar.
4. To choose a color from the box that appears, left-click the color, and it will be applied to the shape you'd selected.

To change the color of text:

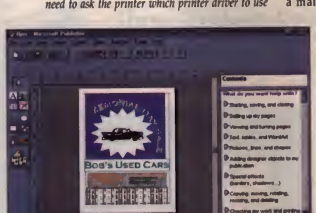
1. Choose Text, Tables, And WordArt.
2. Select Text.
3. Left-click Changing The Size Or Look Of Text Or Its Frame.
4. Select Change The Size Or Look Of Characters, then Change Text Color. Publisher will have you highlight the text and left-click the Font Color button on the top toolbar. You again will choose a color, which Publisher applies to the highlighted text.

If you want to make a different kind of flyer, there are many templates available in the non-business categories. The Personal category offers four templates: Party, For Sale, Lost Or Found, and Garage Sale. The For Sale and Lost Or Found templates include phone number tear-offs for people to respond to the flyer. The School option offers four types of flyers, which are Fund Raiser, School Clubs, Sports, and Field Trip. The Fund Raiser flyer includes a mailer; both the School Clubs and Field Trip flyers include permission forms. The Other category offers four styles for any occasion that isn't covered by the more specific templates: Basic, Bold, Formal, and Jazzy.

A Newsletter

Publisher can help you with newsletters for any event, such as employee newsletters, church newsletters, or newsletters for any organization you belong to, such as your child's PTA, your softball team, or your volunteer group.

NOTE: If you'll be needing a large number of copies of a newsletter, you may want to have the actual printing done by a professional. If you choose to do so, you'll need to find out what printer settings to use when creating the newsletter because printer settings affect your layout. You'll need to ask the printer which printer driver to use and which colors and color-printing methods are available. Set the printer settings before beginning your newsletter.



***Publisher's* step-by-step help will walk you through the process of customizing any publication.**

Layout options. There are 12 style choices for newsletters, including Classic, Modern, Water Color, Holiday, and School News. We chose to use the Classic template to create a newsletter for the employees of a large company. Select the style you want, and left-click Next.

The next choice you'll make is the number of columns you want on each page: one, two, three, or four. (There will be the same number of columns on each page of your publication.) The default is three, and Publisher explains that this is the most popular layout for a newsletter. We chose to stick with this format.

You then choose how many stories you want on the first page; you can have up to three. The stories can be continued onto later pages in the newsletter, so don't worry about how many will fit. Just choose the most important items, and put those on the cover. We chose to put two stories on our front page.

Next, choose a title for your newsletter. Enter it in the dialog box, and left-click Next. Then, you must decide whether to include a table of contents, publication date, and volume and issue numbers. (You can include any combination of these three elements.) The default date is the date your computer registers as the current date.

Selecting the number of pages to have in your newsletter is the next step. We chose to make our newsletter just four pages long. You'll then decide whether you want room for a mailing label on the back and whether the printing will be on both sides of the paper. We opted to use a mailing label and to print on both sides of the paper.

Customizing your newsletter. After you've made all of your choices and left-clicked the Create It! button, you'll be offered step-by-step help with constructing the newsletter: adding text, graphics, setting up pages, adding special effects, and so on. Again, we suggest that you opt to accept this help because the process of putting together all of the elements of a newsletter can be quite complicated if you're not familiar with it.

As with any Publisher document, you choose what you want help with from a list along the right side of your screen. Once you've moved through the series of choices to get help with one feature, you can return to get help with something else, using the back arrow button at the bottom of the Help window.

You can add text in several ways. The two most common are to type it directly into the text frame, replacing the placeholder text that Publisher had there, or import text from another application. Other options include using OLE (Object Linking and Embedding) to link a file in another application to your newsletter and typing text in *Microsoft Word* to be placed in your Publisher newsletter.

To type text directly into a text frame:

1. Choose Text, Tables, And WordArt.
2. Select Text.
3. Left-click Adding Or Replacing Text.
4. When asked what you want to add or replace, choose Text In A Text Frame.
5. Now select the Type It In option. Publisher will show you how to create a text frame by left-clicking the Text Frame tool and using the mouse to draw a box. Now all you do is type the text. Text frames have assigned formatting, so if you type text directly into a frame, it will take on that formatting. You always can change the formatting later.

If you're used to working with a word processing application such as Word or if you're getting material on diskette from other sources to add to your newsletter, you'll probably

want to import text from another application instead of typing it in the text frame. To import text from another application into a text frame:

1. Follow the same steps as above, but choose Import All The Text In A File Created In Another Program instead of Type It In.
2. Publisher will have you left-click the frame you want to add the text to and then go to the Insert menu and choose Text File.
3. Choose the file you want to import from the directory listing.
4. Left-click OK.

Imported text usually keeps whatever formatting it had in the original application, but again, it can be changed once in the text frame.

Publisher has a feature called Autoflow, which lets it accommodate text that doesn't fit into a text frame by either connecting multiple text frames or adding a new text frame. If you import text that doesn't fit into the frame you've chosen, Publisher will ask whether you want to flow the text throughout the newsletter. If you want to make the text fit the frame, you can choose not to use this feature and to edit the text to fit the allotted space.

If you choose to have an item flow from one page to another, Publisher automatically can insert a notice at the end of the first section that tells readers where the story is continued. You also can choose to have a notice at the beginning of the next text frame telling where the story is continued from. These notices will have the correct page numbers inserted automatically by Publisher. To create these notices:

1. Use the right mouse button to click one of the frames that needs a notice.
2. Left-click Text Frame Properties.
3. Under Options, left-click one or both of the boxes in front of the Continued On/From notices.
4. Repeat the process for every text frame that needs a continued notice.

Illustrations add interest to a newsletter, breaking up the text. You can add clip art, pictures from programs such as Win95's Paint accessory, or photographs to your newsletter to catch the readers' attention. To add a graphic:

1. Choose Pictures, Lines, And Shapes from the list of things Publisher offers help with.
2. Select Pictures.
3. Left-click Add A Picture. There are several ways you can add a picture; we chose to add a piece of clip art from Publisher's ClipArt Gallery. To do that, you either can left-click an existing picture frame or create a picture frame in the same way we created a text frame earlier, this time using the Picture Frame tool instead of the Text Frame tool.
4. Choose ClipArt from the Insert menu.
5. Left-click the category of clip art you want to see, and double left-click the picture you want to use. It will be inserted into the frame.

After you add a graphic to your newsletter, you can make the text wrap either around the picture frame containing the graphic or around the graphic itself. To control how the text wraps:

1. Choose help with Pictures, and Arrange Text And Pictures.
2. Select Wrap Text Around A Picture, then decide whether you want it wrapped around the frame or the outline of the picture itself.
3. To wrap the text around the actual picture, Publisher will tell you to left-click the picture frame to select it, then left-click the Wrap Text To Picture button on the top toolbar.

Once you've added the text and graphics into your newsletter, you'll need to add the details. One of the most important details is your table of contents. To create a table of contents:

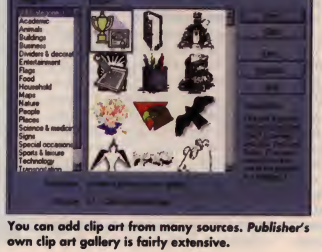
1. Left-click the Table tool on the left toolbar, and use the mouse to draw a table frame.
2. The Create Table dialog box will open, and you can choose one of three styles for your table of contents from a list of several kinds of tables. A sample of the type of table you select will appear in the dialog box.
3. When you find the one you want, left-click OK, and it will be placed in the table frame you created.
4. Now you need to add the text to the table of contents. A blinking cursor will appear for you to start typing in the text. First, type the title (Table of Contents or In This Issue will work well). Use the TAB key to go from one line to the next and to move to the spot for the page number at the end of each line. Type in the titles of your articles and their page numbers. You'll probably want to use the zoom control buttons at the bottom of the window to zoom in so you can see what you're typing.

Other details can be added to your newsletter using the Design Gallery. You can add details such as pull quotes, sidebars, and headlines using the Design Gallery's styles. When you find one you like, left-click Insert Object.

The Insert menu also offers several ways to fine-tune your newsletter. For example, you can left-click a text frame, open the Insert menu, and choose Fancy First Letter to make the first letter of the story larger; this is called a **drop cap**. There are several styles of drop caps to choose from. Left-click OK after choosing your favorite.

When you've made all the changes you want, you can preview your newsletter prior to printing it by using the arrow keys to move among pages. When you're ready to print, just select Print from the File menu. If you're taking the file to an outside printer, use the Save As command in the File menu to save the file to a diskette.

There are many other projects you can do with Publisher's help. The three we've outlined should get you started, but you should explore on your own and find dozens of new ways to communicate. In addition to cards, flyers, and newsletters, you can make letterhead, business forms, business cards, calendars, labels for several items including computer diskettes and videotapes, and many other types of publications. No matter what the message you need to send, Publisher can help you find a way to do it. ●

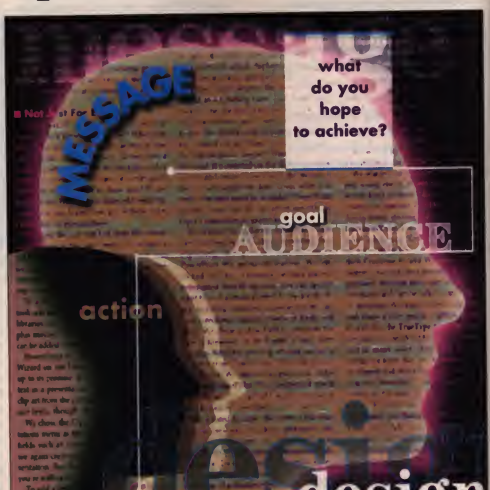


You can add clip art from many sources. *Publisher's* own clip art gallery is fairly extensive.

by Diana K. McLean

Desktop Publishing

It's Easy To Use, But It Still Takes A Brain



Personal computers, desktop publishing software, and quality printers have made it possible for the average person to create sharp, professional-looking projects. But it takes more than just a fancy computer program to make a desktop publishing work of art.

Whether the job is an office presentation, a flyer for a small business, or a church newsletter, putting together a strong project is still more complicated than simply typing in text and clicking a few buttons. Even with all the technology available, you still have to use your brain.

Setting A Goal

Before you type the first word of your project into the computer, you should sit down and think about what you hope to achieve by creating it, Chuck Green says. Green is a professional graphics designer, software developer, and the author of two books on desktop publishing: "The Desktop Publisher's Idea Book" and "Clip Art Crazy."

"The primary thing that we all need to do is to set a goal before we even decide what kind of presentation we are going to put together," he says. "In other words, define your audience, and then decide the action you want them to take after they have received whatever it is you are going to send them."

Green says it's sometimes difficult to figure out who your audience is. If you have run a business for 20 years or have been in the same church for 10 years, then you probably know something about your readers. If you are starting something new, you might actually have to go out and do some research. This might include reading up on **demographics** (the statistical characteristics of a group of people) at the library, talking to an established desktop publisher familiar with your intended audience, or even tracking down people you consider to be your targets and asking them questions.

"All that kind of stuff is just basic groundwork. There is no simple way of getting to it," Green says. The key to it all is knowing who you are communicating with and what they want to hear from you. Regardless of whether your project is a work newsletter or personal letterhead, it should make the message very clear to your readers.

Once you know what you want to say, try to say it in a way that will appeal to your audience. You must write it in a smart, convincing manner, and you must cut to the chase because people are in a hurry and won't read for long. Readers want to know specifically what you can do for them, and they want to know right now.

"Frankly, I don't have any need for anybody's business unless it is going to do

something for me," Green says, echoing the attitude of most busy people. They want to see the big picture, and anyone creating a desktop publishing project must craft their messages in that way or lose a substantial part of their audience.

All the bells and whistles available on today's desktop publishing programs make it easier to make a project look good, and there is no doubt that the actual design of your project is important. But skimping on the message to spend more time deciding if you are happy with the size of your typefaces is a bad idea.

"That (the design) is the icing on the cake," Green says. "That certainly has to be done in a professional way, and you need to think it through, but you are doomed to failure if you haven't determined who your audience is and what action you want them to take."

Choosing Your Tools

Some of the newer desktop publishing programs make coming up with a design pretty easy. *Microsoft Publisher*, for example, offers step-by-step instructions for creating a large number of projects. (See "Do-It-Yourself Publishing" in this issue.) Once you have figured out what you want to make, Publisher offers still more options under each project. For example, there are 12 basic templates for designing newsletters in Publisher, ranging from "classic" to "jazzy" to "influential."

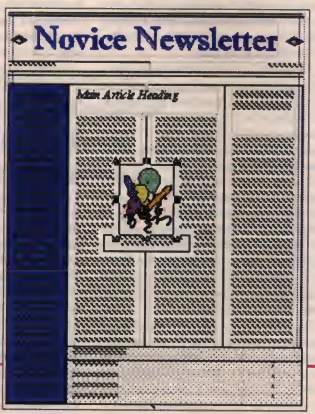
As you gain experience, you shouldn't let Publisher's choices limit your design potential. Use some of the tips we list below to strike out on your own. While the program is excellent for leading a beginner through the paces, it is also a powerful tool for anyone who has enough experience to create their own designs.

Publisher's relatively low cost (about $80) makes it more affordable to the average computer user than the more expensive, feature-heavy, professional publishing products such as *QuarkXPress* and Adobe's *PageMaker*. These high-end products may be necessary if you plan on doing photo work, color separations, output to film negatives, or mass productions or need the technical tools they carry.

Even if a new desktop publishing program won't fit into your budget, you can still achieve great results with your trusty word processing program. Recent versions of top-notch word processors such as *Microsoft Word* and Corel's *WordPerfect* include many of the features once reserved for desktop publishing software.

In the end, it doesn't have to matter how high-tech and current your program is. Your imagination and willingness to spend a little time on the project have more to do with quality than any desktop publishing program.

"The program is just a way to replace the board and rubber cement, as far as I'm concerned," Green says. A good desktop publishing program is great, but it's still up to you, the person creating the project, to make the decisions.



***Microsoft Publisher* can make creating a project easy for the desktop publishing beginner. This is an example of a "classic" newsletter in the earliest stage of development.**

General Tips

After you've decided what you want to say, how you want to say it, and what tools you're going to use, it's time to start designing your project. A **design** is the pattern in which you display information on the page. It is important because it's what draws your audience's attention to your message. It is more than just a collection of words, lines, and art. It sets the mood for your project.

If you are putting together your project for a work presentation due in two days or you simply want to make a snazzier personal letterhead to mail to your grandma in Utah, you probably don't have the time or inclination to dive into a couple of years of higher education to learn the finer points of design. We'll give you a crash course. Remember, there is a lot more information where this came from.

Look professional. The main thing to avoid is looking amateurish, Green says. One way to avoid looking like a beginner is to keep your design toned down.

"The primary thing that I have found over my career is that people tend to make stuff too big," he says. "If you take the kind of amateurish stuff vs. the stuff that looks more professional, you will see that people are using type that is too big and images that are too pervasive."

One example is the average letterhead. "The most important thing on a letterhead is the letter. If you have some gigantic piece of clip art on the bottom of the letterhead and 12-point type with the name of the company and address and stuff—you are missing the point," he says.

The pieces of a project—the text, headlines, graphics, and artwork—should look good together, and no one aspect should overpower the others.

Never on the first try. You must do more than one design to find the one that works. Nobody is so good that they can get it right on the first try every time. Sketch several rough ideas, then narrow them down and actually put together a few of them on your computer.

Whatever you do, never crank out just one design and assume it is the best you can do.

After you have put together a few ideas, show your work to other people. Find somebody whose opinion you respect and who knows something about how a project such as yours should look. If you can, run it by a professional desktop publisher. Listen to what they say, and be open to criticism and suggestions. Then make more revisions.

Do some homework. Look at what others have done. Try to find projects similar to the one you are working on or design books by professional desktop publishers. Look at the way they place the artwork, the way they combine typefaces, and the way the text flows around the page. It's not cheating to look at other people's designs, as long as you just look at them for ideas and don't copy the whole design letter-by-letter, line-by-line. Even design professionals look at each other's work. There are design manuals published annually just for that purpose.

"Art directors use them (the annuals) for inspiration," Green says. "You take a little bit of this one, a little bit of that one, and you glue them together and come up with a new design. You change these things in little ways, and in a big way, your design ends up being something different."

If looking at other projects and inspecting design annuals does nothing but make your head spin, you are probably setting your sights a little too high, for now. You need to step back and check out a book such as Green's "Ideas," which describes every element of each design—from the typefaces on a newsletter to the line weights on a résumé—in a paint-by-number fashion that makes it easy for anybody to use.

Green says his designs are meant for copying exactly out of the book; you don't have to worry about breaking any copyright laws. Once you get the hang of doing some of the basic designs, you can strike out on your own, simply using his projects as guidelines.

See the "Pages About Pages" sidebar on the next page for a few other books that can really help a struggling new desktop publisher.

Specific Suggestions

Linda Rotschafer, the program chair of printing technologies at Southeast Community College in Lincoln, Neb., offers more details on good desktop publishing design.

According to Rotschafer, the typefaces (or fonts) of a project should receive a great deal of attention from the designer because they can say much about your project from the second a person sees it.

"Choose something that 'looks' like the message of your publication," she says. "You can set a mood for the message before anyone has read it." How do you choose a typeface that fits your project? It might sound a bit farfetched, but if you inspect most typefaces closely, you will find they each have their own characteristics. Some look distinguished, others look artistic, while still others have a no-frills appeal. Once you learn to pay attention to the many differences in typefaces, picking the right ones for your project will become easier. (See "From Point Size To PostScript" in this issue.)

USING ALL CAPITAL LETTERS WITH DECORATIVE TYPEFACES CAN MAKE THEM DIFFICULT TO READ.

When you are looking at possible typefaces, you should probably use a **serif** typeface for the body text. Serif typefaces are the ones with a little bar at the end of each line of the letter (like this magazine's regular text). Serif type is easier to read—especially in smaller sizes—and that is why it makes good body copy.

You can contrast your serif typeface body copy by using a **san serif** typeface for your headlines and subheads. San serif typefaces do not have the little bars on the letters, and they are easier to read when printed large (like this magazine's headlines). Whatever you choose to use, make sure your different typefaces complement each other, and use only two different typefaces per project.

In addition to using different typefaces, a variation of sizes can help form a hierarchy in the reader's mind, Rotschafer says. The large headlines draw the most attention, the smaller subheads also draw the eyes, and then the reader digs into the body text.

Using different type styles also can help emphasize your message's main points. Boldface and italic type styles can draw attention to certain words, phrases, or quotations you want the reader to notice. But don't overdo it; if you use these typefaces too often, they lose their effect, and the text can become hard to read. Avoid underlining anything because it also can make text difficult to read, Rotschafer says.

She suggests several other specialty tricks that help your project stand out. They include:

- Creating a **drop cap** (a large capital letter) at the beginning of the first paragraph of text to help draw the reader's eye.
- Copying a good quotation from your text (a **pull quote**), blowing it up into a larger typeface, then setting it off in your regular text with **rules** (lines) or extra-large quote marks to break up the monotony of long stretches of plain text.
- Using one of your specialty typefaces (such as Wingdings) to create interesting-looking markers (often called **bullets**) to show the start of each new item or name in a list.

Rotschafer also says there are a number of things to be cautious of when it comes to typefaces. Always be careful when transferring your project to another person's computer or when having it printed by an outside printing source. They may not have the same typefaces you do, which can cause big trouble. Also, never use script or decorative typefaces in all-capital letters because they are too hard to read.

Graphic Elements

Rules, boxes, and borders are very important in any design, Rotschafer says. Each has a number of important uses. Use rules to define page areas and provide emphasis, she says. Boxes and borders can highlight text or graphic elements and provide some variety on the page.

As with typefaces, new desktop publishers must be careful not to fall into simple traps when they experiment with the various graphic elements, she says. Line weights and typefaces should complement each other and the artwork on the page, and if you use a box with a screen tint, make sure you can read the text on top of it.

Artwork

Rotschafer and Green both had much to say about artwork, and each says one of the most important factors to consider is whether the art you want to use will actually say something about the project or just decorate the page.

According to Green, the best art communicates something words cannot.

"It should say something in a visual way," he says. "If you've ever sat in an airplane and looked at the little card about how to exit the airplane if there is a problem, it is all done visually. If you had to write that all out in step-by-step instructions, it would be 20 pages long, but you can see it all here in pictures. At a minimum, you want to grab attention and draw the reader into the message."

Clip art. The art used in your project can come in a variety of formats and from any number of sources, Green says. **Clip art** is one popular form of ready-made art. The name probably originated from the days when most designers literally had to "clip" the "art" they wanted to use from a clip-art magazine and physically paste it on their project. Now you can simply "cut" and "paste" the whole affair inside your computer, no glue required. Some desktop publishing programs come with their own clip-art files, and you can buy clip-art programs at the computer store. Green's book, "Clip Art Crazy," discusses clip art in great detail and comes with a CD-ROM featuring more than 500 pieces of ready-to-use art.

Photographs. Photographs can add a great deal to your project, but they also can make things more complicated and more expensive. To print a photograph in your project, you have to convert it into halftones. (A **halftone** transforms an image into a pattern of dots that a printer can reproduce.) You can do this on a **scanner**, if you have one, or you can take your photograph to a print shop and have it done. (Scanners convert printed information into digital information that computers understand.) Of course, you can't use just any photo because someone may own the rights to it. So you will have to take the photo yourself, hire someone to take the photo you need, or look for an acceptable photo through a stock photo company. While a photograph can be a great addition to your project, for many it simply isn't worth the hassle.

Line drawings and information graphics. Line drawings are in black and white. You can scan them into your computer, or you can create them on your own in one of the many art programs available.

You can create information graphics right in your computer, too. Some programs can make an information graphic almost automatically. Information graphics include line graphs, bar charts, pie charts, tables, diagrams, and maps. The key to a good information graphic is clearly labeling all the information parts so it is easy to read, Rotschafer says.

Whatever kind of art you choose to use, both designers agree that you must be careful not to overdo it. Too many graphics can make a project go from tasteful to trashy. The key to any good design, no matter what you are making, is to keep things uncluttered and simple. And don't try too hard.

One of the most important factors to consider is whether the art will actually say something about the project.

Rotschafer says you also can find public-domain clip art in user groups, online services such as CompuServe, and local electronic bulletin board systems. Just make sure the material you use is not under copyright protection.

Green says it's important that the clip art really goes with the project and looks good. While clip art is probably the easiest type of art to use, you shouldn't use a bad illustration just because it goes with the theme of your project. There are always other ways, such as the following options, to get art for your project.

"There are people who get very complex with design, but the more you add, the more you have to know," Green says. "When you start mixing all kinds of images and fonts and sizes and styles, you can begin to dig yourself into a hole that you cannot get yourself out of.

"With type and design and illustrations—all of those things—you are best trying to keep it as simple as possible." ●

by Tom Mainelli

Pages About Pages

"Clip Art Crazy"
by Chuck Green
Published by Peach Pit Press
(800) 283-9444
(510) 548-4393

"The Desktop Publisher's Idea Book"
by Chuck Green
Published by Random House Electronic Publishing
(800) 733-3000

"The Makeover Book: 101 Design Solutions for Desktop Publishers"
by Roger C. Parker
Published by Ventana Press
(919) 942-0220

"Newsletter From the Desktop: The Desktop Publisher's Guide to Designing Newsletters That Work"
by Gary Grossman with David Doty
Published by Ventana Press
(919) 942-0220

"Ready to Use Layouts for Desktop Design"
by David Collier and Kay Floyd
Published by North Light Books
(800) 937 0963
(513) 531-8250

Printing With Specialty Papers

So much thought and careful preparation go into words. We worry about their content, appearance, and arrangement on the page, but too often we don't think carefully about what those careful phrases are printed on and how that may affect the overall presentation.

In creating our document's image, we tend to focus so hard on the text and formatting we see on the screen that we forget to think about the complete picture. The most articulate, carefully designed letter printed on a piece of common copier paper will reach its destination looking half-finished. The same letter printed on a piece of letterhead or printed paper presents a more complete, well-thought-out package. Paper with special borders or backgrounds adds a little sparkle to documents, but at times there is no competing with the basic elegance of black ink on textured white paper. When choosing the right paper for your printer and your document's image, there are options for everyone with tastes from Big Chief tablets to corporate letterhead.

A Paper Primer

The paper that runs through your printer is chosen for a specific purpose: binding ink to the page in the most effective manner. Thus, the type of printer you use determines which paper is best.

Laser printers use the same method as a copy machine, binding toner, a powdery substance, to the page with heat.

Inkjet printers spray wet ink directly onto a page in small dots, but the resulting print does not look like the collection of dots created by the pins in dot matrix printers. The wet ink on an inkjet printout may take several seconds to dry, resulting in an occasional smudge. Some companies offer paper made specifically for inkjet printers; it's treated with a resin-based coating to help the ink bond to the paper, resulting in sharper colors and a faster drying time. The same companies also make transparencies and white film treated with the same, ink-absorbent resin.

Paper, regardless of the printer it's designed for, is measured in pounds. For example, copy/writing paper weighs in at 20 to 24 pounds. While this may seem like a rather heavy piece of correspondence, weight is not determined by the scale alone. Instead, it's determined by several components: the weight of a certain number of sheets (the most important factor), thickness (usually related to weight), and density of a sheet. Letterhead and printer paper generally weigh in at about 28 pounds, and card stock weighs between 60 and 70 pounds.

Sending thick pages through your printer may jam the works. Remember the delicate machinery of your printer when ordering specialty papers, especially for business cards and brochures. Most companies won't recommend using specialty printer materials heavier than 38 pounds because the thickness of papers that heavy can jam, and possibly damage, printers. This means business cards done on your PC's printer may be thinner to the touch than those done at professional printers. If you still want to risk printing your own on heavy paper, double-check your printer's manual before using paper heavier than 38 pounds.

Plain sheets do not have to mean typewriter or photocopy paper; you can vary the appearance by varying the texture. The materials used in paper production usually determine thickness, density, and texture or feel of the page. **Linens** have a tightly woven appearance; **parchment** resembles old, weathered sheets that have worn thin in areas; and **cotton sheets** have a soft, almost textile feel. Some sheets are stamped with a watermark.

Recycled printer paper is available for environmentally conscious users. Dancing Tree Recycled Paper and Printing offers 100% post-consumer waste or a blend of recycled and post-consumer printer papers. The term "recycled" is a little deceptive. **Post-consumer paper** is made from the sheets you save and send to the recycling plants. **Recycled paper** consists of scraps and leftovers from the mill floor that have never been sold as paper. Recycled paper is less expensive than first-run sheets, or virgin paper, which most of us normally use. A case of 10 reams (or 5,000 sheets) of 100% post-consumer white paper from Dancing Tree costs $63.75 in comparison to virgin paper, which has an average cost of around $100 per case.

It's hard for some people to get over the feeling of chewing someone else's gum when using recycled products, and the market is still fairly new. Unfortunately, that means consumers may find recycled products more difficult to find or order in bulk. If demand grows, however, production and availability are likely to increase. Recycled paper has a reputation for having a little bit more texture and not being as flawlessly white as virgin paper, but its appearance is improving. In the interest of both conserving natural resources and saving money, the look may become a more widely accepted trend.

Specialty Papers

Not everything coming out of your printer needs to be on a plain, 8.5- x 11-inch sheet. Specialty papers can turn the ordinary desktop PC and printer combination into a printshop extraordinaire. "Specialty papers" include letterhead and graphically designed pages used as stationery, tri-fold brochures, greeting cards, business cards, folders, etc.

Adding a splash of color to your printing endeavors has moved beyond the old, single-colored sheets. Current printer paper catalogs resemble stationery offerings. With everything from muted full-page images to simple borders and color fade-outs, there are specialty papers to help catch a reader's attention and entice the audience to take an interest in the words on the page. Specialty papers also can personalize daily correspondence. Instead of the generic look of black words on a simple, white page, a subtle pastoral scene or a mottled green stripe down the side, for example, add to the overall appeal of the visual image.

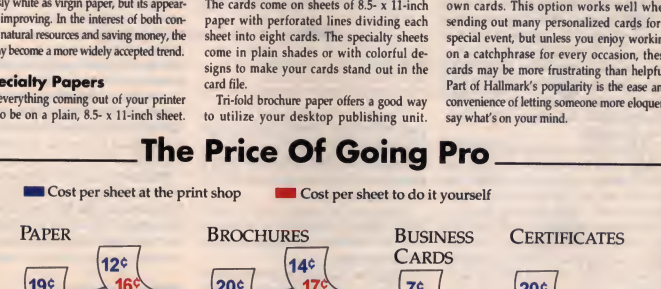
Business cards may not carry the same physical weight when printed from the home computer, but the thinner sheets do not detract from their appearance or effectiveness. The cards come on sheets of 8.5- x 11-inch paper with perforated lines dividing each sheet into eight cards. The specialty sheets come in plain shades or with colorful designs to make your cards stand out in the card file.

Tri-fold brochure paper offers a good way to utilize your desktop publishing unit. Specialty paper companies offer various tri-fold brochure options, usually with a decorative front cover and matching borders inside. Some versions even come with punch-out Rolodex cards to help make adding your name to your audience's file a little more convenient. The brochure comes as a regular, 8.5- x 11-inch sheet that has been slightly creased to fold more easily.

Some specialty paper companies offer stationery sets with letterhead, envelopes, business cards, and brochures in matching prints or patterns. Presentation kits from Paper Direct include letterhead, business cards, envelopes, inlaid folders, and post cards. All the elements in these kits carry the same printed design or a color-coordinated combination for a unified look.

Instead of paying high prices at Hallmark for greeting cards, you can buy blank cards to run through your printer with a personal message. The money you save by paying $16.95 for a package of 15 cards from Paper Showcase, however, may not outweigh the time and frustration needed to create your own cards. This option works well when sending out many personalized cards for a special event, but unless you enjoy working on a catchphrase for every occasion, these cards may be more frustrating than helpful. Part of Hallmark's popularity is the ease and convenience of letting someone more eloquent say what's on your mind.

The Price Of Going Pro



Note: These prices are averages from several catalogs and print shops, not exact prices.

Before deciding on the best printing method for your next job, compare the cost of printing special documents at home with having them done professionally at the print shop. We averaged the cost of specialty papers from several mail-order catalogs to reach the red numbers. Remember that these figures do not include the cost of using the printer or personal time. We then called several print shops and averaged the cost of having the same job done professionally, represented by the blue numbers. These figures *do* include the professionals' time at the computer and their charges for printer use. ○

Remember that creating your own brochures or business cards may seem like an excellent idea until you sit down at your word processor to arrange your information neatly on a page that will print out on a tri-fold sheet. Without a software option specifically labeled "Brochure" to the layout process, just getting the information into the right windows may take several print tries. Then you must arrange your information in an attractive and informative manner.

Paper Direct packages software that serves as an add-on to your word processor with some of its specialty paper packages. The software templates are specialized for a particular Paper Direct format and style, but they may be used as guides for more versatile usage. In fact, Paper Direct templates have been built into some desktop publishing programs.

General Tips & Tricks

Besides cost, one of the obvious advantages to printing your own brochures, business cards, and other specialty documents is the ability to personally oversee every aspect of the final product. You can play with spacing variations, margins, and other general appearance components. The disadvantage is that you *must* be responsible for all the details involved in your creation. When pondering the cost advantages of taking a project to the print shop or doing it in-house, consider whether you have the time and patience to do a professional-looking job.

Whether buying specialty papers or going to a print shop, buying bulk will save you money. Making one large order probably will cost you less per page than placing several smaller orders. Although buying 500 copies when you only need 100 probably won't save you money overall, it usually pays to do some careful planning when placing an order of this nature. Take a few minutes to think how many copies you are likely to use, then add a comfortable cushion.

An alternative to the home printer or the professional print shop, and we *are* serious about this, is the copy machine. Most photocopiers are capable of making crisp, clear copies that are difficult to distinguish from the original. Using the copier to print documents may be faster and more economical than the other options. This method also may serve as an alternative if your printer is finicky about paper weight or you want to print double-sided documents. If you use the copier, remember:

When pondering the cost advantages of taking a project to the print house or doing it in-house, consider whether you have the time and patience to do a professional-looking job.

1. Print your original document on a clean piece of white paper. You may print one copy on specialty paper to make sure the spacing and margins are correct, but you don't want a photocopy of the paper's design shadowing your finished documents.

2. Make sure the scanning surface is clean. Nothing screams "photocopy" as loudly as a stray hair or mysterious blob appearing on all printed documents.

3. Print one document on specialty paper. Before you program the copy machine for 500 duplications and send it on its way, there are a few details you should check. Make sure the text is lined up to your satisfaction. Also, double-check print quality. If you're using colored paper, you may need to adjust the darkness level. If the copier says add toner, add it. Your copies can look like printed originals if you're careful.

If you decide to save yourself some work and pay a little more to have the job printed professionally, keep a few guidelines in mind. First, professional does not mean infallible. Take the document in to be set first, look at one copy, and *check carefully for errors*. Be especially careful to look for typographical errors in names, dates, addresses, and any statistical information. The most common errors occur in numbers and proper names, items that will not be caught by a spell checker.

Second, be sure the appearance of the document is exactly the way you want it. If the print shop and you had a misunderstanding in formatting, paper weight, ink, or paper color, correct it early. The print shop may have made a professional judgment call without knowing exactly what your intention was. Don't just assume they know best, but remember that experience is one of the reasons you brought the job to the pros, so take their suggestions seriously. Combine your innovations with their experience. Have one sheet printed at a time until you have achieved the desired effect.

When choosing preprinted paper, be careful to select a design that will be appropriate for the type of document and for the receiving audience. Professional, conservative designs, such as a monochrome border or letterhead, are still the safest route for most business correspondence or presentations. Presentation documents, however, are a little more flexible when it comes to graphical enhancements. Anything with an advertising-driven intent almost begs for a more inventive display. Personal correspondence has only one rule: the more personal the better. Choose a paper that describes you to your audience before your words begin.

Whether you stick with black and white, a wheat field background, or a simple navy border, remember that the paper you select for any document expresses how much thought and care you've given the finished product before the intended audience even reads the text. ●

by Elizabeth Panska

For More Information:

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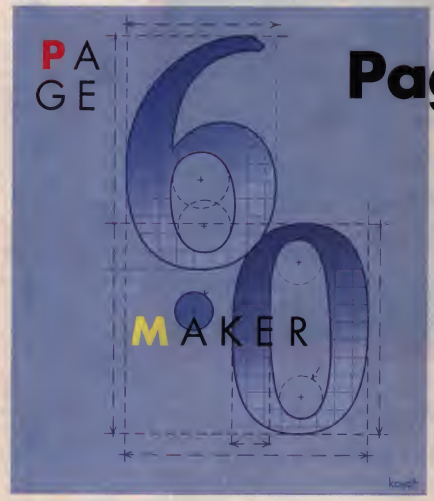


PageMaker For Windows 95: Part II

Adobe PageMaker 6.0 for Windows 95 provides a host of page construction and layout tools for high-quality publication designs, boasting more than 50 new features and enhancements. Besides advanced color management and printing, it now includes support for multiple Master Pages and automatic trapping. There's even an HTML Author plug-in to convert PageMaker text and in-line graphics into HTML (Hypertext Markup Language) format for publishing on the Internet's World Wide Web.

PageMaker In Action

Whether you're a novice or an experienced desktop publishing professional, PageMaker's time-saving production tools provide more control than ever over the design process. This tutorial will show you how to create a four-page brochure printed on 5.5- by 8.5-inch paper by a laser printer. We will use basic PageMaker design tools and page layout features (such as horizontal and vertical rulers, style sheets, box borders, and rules), plus the "Build Booklet plug-in" to create and size a publication with visually pleasing text and graphics. You'll learn how to work with Master Pages that hold repeating elements and guides and with time-saving style sheets to apply formatted paragraph attributes and type specifications. You'll learn to create templates and import graphics from other applications.

The advantages of using a desktop publisher such as PageMaker instead of a high-end word processor for page layout and document production include typographic controls, formatting options, graphics manipulation, layout precision, and color output. If your documents are text-heavy with few illustrations, you're better off with a word processor. If your documents need elements such as graphics, columns, tables, boxes, charts, photographs, or lines, it's time for a desktop publisher. Desktop publishing applications are better equipped to handle sophisticated text and graphics arrangements, page layout, and type.

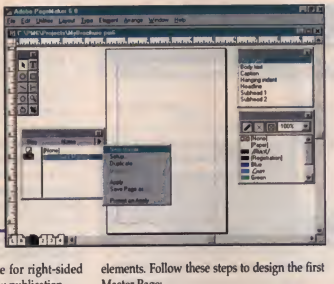
Brochures

Before designing a brochure on-screen, sketch a layout with pencil and paper to help you position text and graphics. Use PageMaker's Build Booklet Plug-in when the publication is complete. This plug-in (go to the Utilities menu, select PageMaker Plug-ins) can create a multipage document in which pages are paired to be outputted to a single sheet of paper. The plug-in will print pages back to front if your printer supports double-sided printing. The first page of the publication prints on the same sheet as the last page, while the second page prints on the same sheet as the second-to-last page. It's a perfect design layout for a simple, four-page brochure.

Thanks to Build Booklet's layout skills, pages automatically print in proper order. Just fold the printed double-sided sheet in half. However, running Build Booklet is the last operation before actually printing the brochure. It's not even an available option in the PageMaker Plug-ins under the Utilities menu until you open a publication.

Design

To simplify your design, you will create the four-page publication with two Master Pages,



PageMaker 6.0 for Windows 95 lets you create multiple Master Pages for a single publication.

one for left-sided pages, one for right-sided pages. Begin by opening a new publication.

1. Choose New (CTRL-N) from the File menu.
2. Left-click the arrow to the right of the Page Size field. When the menu appears, scroll down the list, and choose Letterhalf. Its dimensions appear in the Dimensions text boxes (5.5 inches by 8.5 inches).
3. Make sure the Double-sided and Facing Pages options are checked. Selecting Double-sided sets inside and outside margins to accommodate pages printed on both sides.
4. Leave Facing Pages checked to display pages as a two-page spread.
5. Tell PageMaker the number of pages in this publication, the target printer resolution (i.e., its dots per inch [DPI] setting), and which printer you will use. Left-click OK.
6. Save this publication by selecting Save As from the File menu.
7. Left-click the down arrow to the right of Save in the window.
8. Select the icon for the drive where you installed PageMaker.
9. Double left-click the PageMaker folder to open it.
10. Create a new folder by left-clicking the New Folder icon.
11. Name this new folder **projects**.
12. Double left-click the Projects folder to open it.
13. Type **mybrochure** in the File name window.
14. Left-click the Save button. You'll save both PageMaker publications and templates in this Projects folder.

Create The First Master Page

Your brochure Master Pages will include automatic page numbering and repeating text elements. Follow these steps to design the first Master Page:

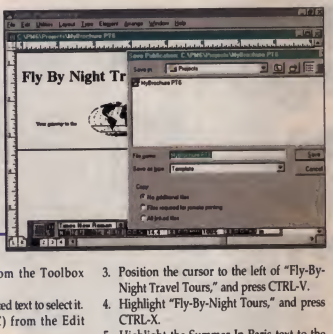
1. Select Master Pages from the Window menu (or press CTRL-H to open the Master Pages palette).
2. Left-click the arrow in the upper-right corner of the palette to create a New Master Page (see Figure 1).
3. Choose New Master.
4. Type **opening spread** in the Create New Master Page dialog box.
5. Choose Two Page. Make sure both Column boxes specify one column.
6. Left-click OK. PageMaker displays right and left Master Pages, set with default margin guides.
7. Save your work by selecting Save (CTRL-S) from the File menu. The document is automatically saved to the Projects folder.

PageMaker automatically will number all brochure pages if you position page-number markers on the left and right pages of the Master Page spread. Follow these steps:

1. Magnify the view of the lower-left corner of the left Master Page by selecting View->75% Size from the Layout menu.
2. Use the scroll bars along the right side and bottom of the active window to position the left Master Page so its bottom left corner appears on-screen.
3. Select the Text tool. If the Control Palette is not on-screen, select it as an option from the Window menu.
4. Choose the font Times New Roman from the Control Palette. To find the font, left-click the down arrow to the right of the font menu, then select the desired font.
5. Left-click inside the margin guide in the lower-left corner of the left Master Page. An insertion point aligned with the margin guide appears.
6. Type **Page**, press the Spacebar, then press CTRL-SHIFT-3. An LM (Left Master) page number marker is displayed on-screen where the page number will appear. With the insertion point still blinking to the right of the LM marker, press the Spacebar five times.
7. Type **Fly-By-Night Travel Tours** (or your company name).
8. Press the Spacebar.
9. With the Text tool still selected and character view (the "A" symbol) on the Control Palette still engaged, left-click the down arrow to the right of the font menu.
10. Scroll the font list until Wingdings appears, then select it.
11. Press W. A small diamond appears on your Master Page. Return to the Control Palette. Select Times New Roman from the font menu.
12. Press the Spacebar, then type **Summer In Paris**.
13. Left-click and drag the cursor across Page LM to highlight it, left-click B on the Control Palette to apply Bold style. Each page in your document will have bold letters for page numbers and regular lettering for repeating text elements.
14. Position the cursor over the horizontal ruler at the top of the screen. If this ruler is not visible, choose Layout, select Guides and Rulers, then select Show Rulers.
15. With the pointer over the horizontal ruler, left-click and drag the mouse to create a horizontal ruler guide. (The turquoise ruler does not print.)
16. Drag it until the number for the Y-coordinate in the Control Palette reads 7.625 inches.
17. Select the Pointer tool from the Toolbox palette.
18. Left-click the formatted text to see the borders of the text block.
19. Drag the text block until the baseline of the text rests on the 7.625 horizontal ruler guide.
20. While the text still is highlighted as a text block, left-click and drag one of its right corner handles so it's aligned with the right edge of the text. A smaller text block is easier to manipulate.
21. Save your work.

Now you're going to copy the page number marker and the repeating text element to the right Master Page.

If you intend to produce brochures regularly, save your document as a template. To create a new brochure, call up a copy of the template and flow in the content. This way, you don't have to create new Master Page layouts.



1. Select the Text tool from the Toolbox palette.
2. Triple left-click the formatted text to select it.
3. Choose Copy (CTRL-C) from the Edit menu.
4. Use the horizontal scroll button to move to the right Master Page.
5. Left-click the right Master Page, between the left and right margin guides, just below the horizontal ruler guide.
6. When you see the flashing insertion point, press CTRL-V. The page marker is displayed as RM (Right Master).
7. With text tool still selected, highlight Page RM, and choose Cut (CTRL-X) from the Edit menu.
8. Left-click to the right of the word "Paris" to establish an insertion point, then press the Spacebar five times.
9. Choose Paste (CTRL-V) from the Edit menu. Select the Pointer tool.
10. Left-click the formatted text to see text block borders.
11. Drag the text block until the text baseline rests on the 7.625 horizontal ruler guide.
12. Align the repeating text and page number marker to the right side of the right Master Page by selecting the Text tool, left-clicking in the text to establish an insertion point, selecting the Paragraph View button on the Control palette, then choosing the Right Align button. The LM page marker now aligns to the left, while the RM page marker aligns to the right.

To have the repeating text on the right Master Page mirror text on the left Master Page:

1. Left-click and drag across "Summer In Paris" to highlight the text.
2. Press CTRL-C to copy it.
3. Position the cursor to the left of "Fly-By-Night Travel Tours," and press CTRL-V.
4. Highlight "Fly-By-Night Tours," and press CTRL-X.
5. Highlight the Summer In Paris text to the right of the diamond bullet. Press CTRL-V.
6. Save.
7. Select the Pointer tool.
8. Drag a left-corner handle so it is aligned with the left edge of the repeating text.

To position a rule above the left Master Page marker and repeating text (to separate this footer from the rest of the page):

1. Select the left page text with the Text tool.
2. Choose Paragraph from the Type menu.
3. Specify left alignment for the paragraph.
4. Choose Rules.
5. Make sure the Rule Above Paragraph box is checked. Then left-click Options, and type .5 for Top inches above baseline.
6. Left-click OK three times.
7. Choose the Pointer tool, left-click the text box to select it, then drag the text to align its baseline to the ruler guide if necessary.
8. Repeat this procedure for the right Master Page marker, but remember to specify right alignment for the rule.

With Master Pages assembled, you're ready to assign them to specific pages in your brochure. Until you apply a specific Master Page to a brochure page, PageMaker assumes you want the default Document Master applied. Select Page icon 2/3 at the bottom of the screen to turn to the pages you want your Opening Spread to affect. Then select Opening Spread from the Master Pages palette. Your Master Page spread is now mapped to pages 2 and 3 of your brochure.

You can apply just one side of a Master Page spread to a single brochure page. Here's how:

1. Select page 4 of your publication layout (left-click the page icon with the number 4).
2. Press CTRL-H, or left-click Master Pages from the Window menu.
3. Left-click the Master Page you want to apply (i.e., Opening Spread). PageMaker automatically applies the left side of a Master Page spread to a left-hand page. Follow the same steps to apply a right-hand Master Page to page 1 of your brochure.

If you intend to send out corporate brochures regularly, consider customizing the first page of your document so it will catch the reader's eye with a distinctive element, perhaps your company name and corporate logo. On the brochure's last page, add a box with information about how to contact the company. Finally, save the entire document as a "template" (see Figure 2). When it's time to send out your next brochure, choose Open from the File menu, then select the template file from the Project folder. PageMaker publications are saved with the extension .PM6; template files have the extension .PT6. PageMaker automatically opens a copy of this template so you won't accidentally overwrite existing document elements. You're now ready to flow in text and graphics specific to this brochure edition. If you want to revise the original template, select Original (rather than Copy) in the Open Publication dialog box.

To design an attractive headline, choose the Text tool from the Toolbox palette. If the Styles palette is not visible on-screen, select Styles from the Window menu. Left-click Headline Style. It's already formatted for the Times New Roman font at 30-point size. Select the Page 1 icon at the bottom of the screen to ensure that you add text to the first page of the brochure. Type the text that will appear on the front page of each issue. Import a graphic you've drawn, scanned, or created in another application, using the Place command from the File menu. If PageMaker does not recognize the file format of the graphic, open it in the original application, copy it to the Clipboard, then paste it into PageMaker. If the imported graphic is too large for the layout, select it with PageMaker's Pointer tool, press the SHIFT key, and left-click and drag one of the graphic's corner handles. The illustration will be resized, while retaining original proportions.

Follow these steps to create a "How To Reach Us" information box on the back page:

1. Left-click the page 4 icon to bring that page on-screen.

2. Select the Text tool.
3. Type your information.

If you need to move the text as a block to a new location:

1. Select the Pointer tool
2. Left-click anywhere in the text. When handles appear, left-click and drag the text to a new location.
3. Drag the right corner handle of this text block to align it with the text's right margin.

To add a border around the text:

1. Double left-click the Rectangle tool.
2. Select a rounded-corner style.
3. Left-click OK.
4. Select Line from the Element menu.
5. Choose a point size for the box you will be drawing around the contact information.
6. Draw the box around the text.

To move the text and box together as one element:

1. Select the Pointer tool.
2. Point at the text block to select it.
3. With the SHIFT key pressed down, left-click the box to select it.
4. With both box and text block selected, choose Group from the Arrange menu. Now when you use the Pointer tool to move the text block, the rectangular box will move with it.
5. Save your work.

Final Steps

After you're done designing, remember to spell-check your text. If you've grouped text and graphics, ungroup them before editing. Use the Pointer tool to select the text to be spell checked, then select Edit Story from the Edit menu. Choose Spelling from the Utilities menu, verify spelling, then select Edit Layout from the Edit menu to return to Page Layout View.

To print your brochure in Booklet form:

1. Point at PageMaker Plug-ins from the Utilities menu.
2. Choose Build Booklet. PageMaker automatically calculates Spread Size values.

You easily can revise the order of your brochure pages, delete pages, or add blank pages. Changes affect only the "copy" of your publication, not the original. Choose 2-up Saddle Stitch from the Layout menu. Decide if PageMaker should place guides in your publication's gutter and preserve page numbering. Left-click OK. PageMaker closes your original document and creates a new publication based on options selected. Choose Print from the File menu of this new document. If your printer can print to both sides of a single sheet of paper, you can specify Duplex options. If your printer does not support Duplex printing, make sure Ranges is selected. Type **1**. After PageMaker prints the first page, put the sheet back in your printer in reverse position, then tell PageMaker to print side 2. You may have to practice to ensure both pages print back-to-back with correct orientation. ●

by Carol S. Holzberg, Ph.D.

For More Information:

PageMaker 6.0 for Windows 95
$589.95 (street price); $145.95 (upgrade)
Adobe Systems Inc.
(800) 42-ADOBE (2-3623); (415) 961-4400

PageMaker 6.0

QuarkXPress for Windows v3.32

The rivalry between high-end desk-top publishers *QuarkXPress* and *PageMaker* can get intense. These desktop publishers have been pursuing each other's market share for years, adding enhancements and new capabilities with each release. For users, it's a win-win situation.

Professional service bureaus favor QuarkXPress over PageMaker because Quark offers more precise typographic controls for tracking and object rotation. With Quark, you can increase or decrease space between characters (**kern**), or adjust space between highlighted characters and words (**track**) by minute increments. Text and graphic boxes can be resized, and objects can be rotated in increments as tiny as .001 unit for a specified measurement system. PageMaker's kerning and rotation increments may be as small as .01 **em** (an em is as wide as the point size of your type, which is roughly two spaces), but tracking adjustments range from "very loose" to "very tight."

Versions of Quark before PageMaker 6.0 handled color better. With PageMaker's new autotrapping and support for multiple color systems, Quark is no longer the only desktop publisher to offer high-end color management. In addition, PageMaker now has several built-in long document creation functions, such as the ability to generate a table of contents and index, or print a book assembled from multiple documents. Quark offers these functions only through third-party sources.

Still, there are features in Quark not available in PageMaker 6.0. Quark uses a frame-based metaphor, while PageMaker supports a free-form interface. Users say it's easier to lay out a page when every item resides in its own frame. Quark supports hundreds of XTensions. PageMaker's Plug-in options are still limited. Quark features automatic save and back up options, plus WYSIWYG (What You See Is What You Get) in-context editing. With Quark, you can't switch between Story Editor and Layout modes. The program combines both modes in one. You can edit text, run a spell check, or use the Find/Replace command directly from your publication. Another Quark feature unavailable in PageMaker is context-sensitive help. While Quark dialog boxes have no Help button, pressing F1 brings up the appropriate Help file.

Unlike PageMaker 6.0, QuarkXPress v3.32 can't support Windows 95. Quark is Win95-compatible, but it is not yet a native 32-bit Win95 application. It supports long file names and long directory names, but because it isn't OLE 2.0-savvy, you can't drag and drop objects from an OLE server application into a Quark document. QuarkXPress v3.32 for Windows also does not support the Win95 Add/Remove Programs Control Panel, right-mouse button context menus, tooltips for 3D button icons, or tabbed dialog boxes. It's not MAPI-enabled, has no HTML document converter, and is not yet available on CD-ROM.

You should not use QuarkXPress v3.32 instead of PageMaker 6.0 if you're running under Win95 and want a 32-bit, Win95 program. On the other hand, if you want precise typographic controls with a frame-based metaphor for desktop publishing, QuarkXPress still beats the picas off PageMaker 6.0. ○

For More Information:

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$579.95 (street price)
Quark Inc.
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(303) 894-8888

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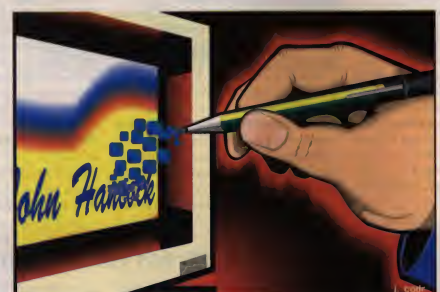


Though the paperless offices taking shape today might lose the flourish of a pen-wielding John Hancock, special signature software and hardware can at least add a touch of humanity.

Signatures, the unique mark we leave behind on receipts, endorsed checks, letters, and all other manner of communications, are slowly being replaced by personal identification numbers (PINs), typed screen names such as "jsmith," or sometimes nothing at all. A large percentage of E-mail users seems to believe the cryptic return address at the top of their messages is moniker aplenty. Others substitute three or four lines of canned text stating their name, position, and favorite quote.

Those who demand more from the Information Age have other options in certain cases. Touch-sensitive pads such as those increasingly used by delivery services and large stores transfer impressions made by a stylus to the screen. The process of waving a pen over a flat surface is familiar to users, but instead of leaving ink behind, a digitized version of a person's signature is stored in the computer. It then can be printed on a receipt or kept in memory to help prove the transaction occurred.

Similar input pads are available for the home or office computer and frequently are used in conjunction with graphics programs. With the proper software, they let users draw anything they like on a screen, including signatures. However, touch-sensitive devices are an expensive option for someone who simply wants to scrawl a name on word processor documents now and then.

Fortunately, the same result can be obtained in a much cheaper fashion. For a fee, a whole range of companies large and small will do the digitizing for you. A copy of a signature on paper is sent by mail to the company, where it is scanned into a computer and converted into a **TrueType font**. TrueType fonts (files with the extension .TTF) are used in many word processing and other programs on most computers. (For more information on TrueType fonts, see "From Point Size To PostScript" in this issue.)

Once a signature is turned into a font, it can be resized just as any other on-screen text. It can be cut, pasted, copied, printed time and time again, or simply stared at with delight. Virtually anything that comes out of a computer—a letter, contract, spreadsheet, sign, banner, you name it—can be signed off with an accurate version of the writer's signature. With a color printer, it's even possible to print the signature in a different color than the text to go for that "Is it real or is it junk mail?" look.

The equipment and software involved in making digitized signatures are cheap enough that a variety of small firms offer the service. A few we found advertised on the World Wide Web are listed at the end of this article.

Some packages, such as Ma2zak Computers' "My-Name" Signature Font, offer extras such as encryption software that requires a password to be entered before a signature can be used. If a computer is accessible to prankster officemates or other enemies, such methods can prevent unwanted "forgeries" and the misunderstandings they might create.

Digitized signatures aren't the answer to all computer needs. Although some primarily interoffice E-mail programs, such as *Microsoft Exchange*, can display different fonts, E-mail sent out onto the Internet will likely be limited to simple **ASCII** text. (The American Standard Code For Information Interchange is a popular file format.) That means any signature files will show up as strange characters rather than a scribbled name. One exception is if both the sender and recipient are using Microsoft Exchange and recognize this fact. In this case, different fonts can be sent and will appear as they were created.

Signature fonts probably work best with electronic faxes. In the age of fax/modems, many documents are created and sent off to recipients without ever going through a hard-copy stage. There is no opportunity to sign such a fax in the normal way. With a signature font, however, the name can be added with no problem. What's more, it will be difficult for the recipient of the fax to tell if the signature is real or not.

For large-scale operations, a hardware option for computerized signatures requires the

use of a **pen plotter**. While more familiar printers contain a print head that transfers text to the paper one row at a time, pen plotters actually use pen-like print heads driven by mechanical arms. This system replicates to a greater extent the way people actually write and draw. Special software, such as that developed by Calligraphics Computer Calligraphy in Ottawa, Canada, can drive pen plotters to create realistic-looking signatures. If you don't look closely, the distinction between actual and fake can be quite thin.

The Law

This fuzziness surrounding the exact origin of a given computerized signature means executives probably won't be signing contracts in TrueType anytime soon. As an increasingly computer-dominated society lumbers toward a paperless world, however, the present, ink-dominated environment will necessarily evolve. Shuffling electronic documents is faster and cheaper than dealing with paper, giving business a financial incentive to adopt some sort of electronic standard.

Benjamin Wright, a Dallas attorney and author of "The Law of Electronic Commerce: EDI, Fax and E-mail," says the legal framework is already in place for the switch from paper signatures to electronic signatures. Assuming everything else is above-board, he says, a contract signed with a digital signature is just as legally binding as one signed by hand.

"There's no such thing as a standard signature," Wright says. "I can sign any way I want to. I can change it every day, or even every minute."

For instance, he says, someone could decide to sign with a smiley face, then decide the next day to switch to a sad face.

"There's no such thing as the 'signature police,' " Wright says.

That doesn't mean all parties to a transaction must accept smiley faces or computer-drawn symbols. People are free to negotiate contracts in whatever manner they choose, but the law itself isn't a barrier to electronic signatures.

In fact, if the law is pushed to its limits, Wright says, even typing one's name in simple ASCII characters at the bottom of an E-mail message could be considered a signature. Rather than focusing on exactly how a signature was made, courts consider what the intention of the signer was at the time. If the signer typed or otherwise affixed a symbol to a document as a way of saying, "I accept responsibility for this," it is legal.

Though signing rituals and societal conventions place a great importance on signatures, they actually are just one layer of security in transactions. Depending on the weight of the situation, other layers may be added. These might include the presence of witnesses, a history of oral promises, special meetings, monetary deposits, handshakes, and other protocols. The law looks at all of these pieces, not simply one signature, to help determine if a contract is valid.

Protection

In the same way digitized signatures are valid legally, the same sorts of protections against forgery are also enjoyed. Though someone might log on to a computer and use an unauthorized digital signature to sign stacks of documents, that doesn't mean the victims will be held liable. A forged check is worthless, whether the fraudulent signature is in ink or on a computer screen.

It isn't terribly difficult to illegally reproduce someone's signature on paper, but a number of electronic schemes are designed to offer higher degrees of forgery protection for computer messages. One of the most common is **PGP**, which stands for Pretty Good Privacy. Using PGP, a message can be encrypted so that only certain people can read it or "sign" it using a verifiable code. This system doesn't make use of digitized versions of handwritten signatures but instead opts for strings of alphanumeric characters. Programs using PGP are available through the Internet; a good place to start looking is Yahoo's PGP listing at http://www.yahoo.com/Computers_and_Internet/Security_and_Encryption/PGP__Pretty_Good_Privacy/.

PGP encryption, in theory, is nearly uncrackable if individual users guard their "private keys," the special codes they use to decrypt incoming messages and sign outgoing messages. If the hard drive or diskette containing the key is compromised, however, miscreants can send damaging E-mail before the rightful owner discovers the problem. Though PGP represents a powerful method of encryption, it is difficult in a legal sense to prove who exactly signed a PGP document. The authority of a PGP-signed document is only as good as the **security** surrounding the private key.

Peripheral Vision Ltd. is a British company marketing a more exotic method of electronic signatures called "biometric tokens." Basically, the system uses touchpads to record a normal signature in the same way some retail stores do today. Rather than simply recording an image of the signature, however, the system assigns values to many different aspects of the event. The speed of the pen at different points in the signature, where the pen pressed down with more force, and other characteristics are all noted. Computers then can compare signatures of disputed origin to verifiable samples to decide the probability of genuineness.

This is much like the system handwriting experts use today in court and during investigations to link samples of text to a certain person. However, a computerized system can measure many more details of a signature and produce much more accurate results. A digitized signature also can be "bound" to a specific document using **checksums**, a mathematical way of assigning a number to a document based on the characters used. If any character is changed, the checksum changes.

While a criminal could forge someone's signature on paper with reasonable accuracy or steal a PGP private key for an exact match, producing a passable biometric token would be nearly impossible. The other advantage of the system is that it doesn't require the average person to carry any keys or memorize special codes; signatures are all that is needed.

Jeremy Newman of Peripheral Vision says the biometric token system is targeted mainly toward low-volume, high-value transactions such as insurance contracts and other important documents. As digitizing hardware prices come down, tokens could possibly be adopted by credit card companies and banks. Of course, widespread use of biometric tokens would bring new scrutiny to the system and perhaps unveil security flaws. But eager computer science graduate students are waiting to tackle those sorts of challenges.

Regardless of the potential problems, a token-based signing model holds a certain beauty. Rather than the impersonal PINs and codes we use more and more everyday, more traditional signatures could return. Computers might render paper obsolete, but there is hope for the mighty pen. ●

by Alan Phelps

For More Information:

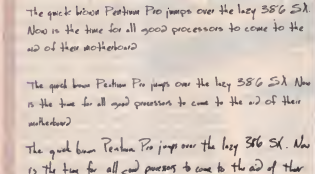
Aztek Signature Fonts
(415) 864-8502
http://www.webcom.com/ztek

Font Source Inc.
(423) 522-8059
http://www.esper.com/fontsource

Ma2zak Computers Plus
(800) 804-3905 (fax)
http://www.usa.net/~mcp

Signature Software Inc.
(800) 925-8840, (503) 386-3221
http://www.sigsft.com

Hands-off Handwriting



Font Or Fountain Pen?

The noncontextual version of Signature Software's Personal Font (top) has only a single version of each letter taken from the actual handwriting at the bottom. The contextual version in the middle, however, has case-sensitive varieties of each letter, adding more realism to the font. Note how the lowercase *o* in the middle of "brown" differs from the lowercase *o* that begins "over."

For those who want to go a step beyond a mere digitized signature, some companies offer the ultimate in personalized computer typing: entire digitized alphabets and numbers.

Instead of converting a single signature into TrueType format, a few companies will scan in groups of letters, numbers, and words. The data is used to assemble a font based upon a person's actual handwriting. When the completed font arrives in the mail, users load it like any other font for use in a variety of applications. Signature Software of Hood River, Ore., is one of the largest handwriting font companies. For $49.95, it offers a font kit that takes two to four weeks to create and ship back to the user.

Signature Software offers another, slightly more complicated font designed to look more like actual handwriting. Most personalized fonts include only one copy of each letter, which is printed the same regardless of what letters are located on either side of it. However, most people's handwritten characters change depending upon what characters follow or preceed them. Personal Font attempts to take these variations into account.

Rather than asking users to fill out a form of character samples to be scanned, the Personal Font form includes spaces for entire words that together form a representative showcase of how a person's letters interact. The resulting font includes several shapes for each lowercase letter. In the PostScript version of the font, typing on the screen looks like a standard, noncontextual handwriting font, and substitutions are made to the more advanced characters during printing. In the TrueType version, the transformation is made in the application using a separate *SigSoft Handwriter* program.

At $99.95, contextual fonts are a bit more pricey than standard handwriting fonts. We tested each type against a sample of actual handwriting to see what difference the doubling of price makes. Notice in our example how the shape of the various letters changes depending upon their position in words. Capital letters and numbers remain the same unless the user wants to pay $299 for the deluxe WriteType font.

Although a real person's handwriting varies a bit from sentence to sentence depending upon writing surface, angle, writing utensil, and many other factors, it still is easy to see that each of the three samples comes from the same hand. A bit of variety makes the contextual example more realistic. Cursive fonts show a more dramatic quality increase from noncontextual to contextual because all of the letters are squeezed together enough to connect.

Contextual fonts appear to work as advertised for those willing to pay the price. The font is indeed novel, even if it doesn't have a lot of practical use. Letters to friends and family printed in your own font might look more personal than hum-drum Times Roman, but typing is still typing. Even a handwriting font fails to replace true handwriting.

On the other hand, so to speak, personalized fonts might be useful for those who sometimes have trouble writing legibly for one reason or another but don't want to give up their distinctive script. For others, handwriting fonts are more of an interesting curiosity. ○

Microsoft Word 6.0

Creating Custom Dictionaries

When it comes to business communications, your credibility diminishes if your printed memos, reports, or business proposals contain spelling errors. The powerful spell checker in *Microsoft Word* will correct those errors with a few mouse-clicks. We'll examine Word's spell checker and offer some tips for customizing it.

The spell checker can be activated by choosing Spelling from the Tools menu (Tools, Spelling), pressing F7, or clicking the ABC button on the Standard toolbar. (To display the Standard toolbar, select View, Toolbars, Standard.) Word is smart enough to check all document text, including headers, footers, footnotes, endnotes, and annotations. It also can flag double words (but but), incorrectly capitalized words (thiS), words that should be capitalized (boston, massachusetts), and words that should be all caps (ZIP).

When Word encounters a term that is not in either its "main" or "custom" dictionaries, it displays that word in the Spelling dialog box's Not In Dictionary field. Then it suggests a suitable replacement in the Change To field. If this alternative is unacceptable, scroll through the list of words in the Suggestions box, highlight a replacement, then click Change. Clicking Change All corrects all instances of the suspect word in the current Word session.

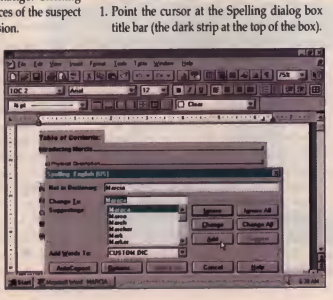
If the suspect word is a term specific to your business (i.e., a product that your company sells, a person's name, or a town that you don't want flagged in subsequent spell checks), you can add it to a custom dictionary. Custom.dic, Word's default custom dictionary, appears as the highlighted choice in the Add Words To field. To add a new word to this custom dictionary, verify that the word in the Not In Dictionary field is spelled correctly and that the Add Words To field reads "CUSTOM.DIC," then click Add. To ensure that Word suggests correct spellings from the custom dictionary (as well as from its main dictionary), click Options. In the resulting Spelling Options dialog box, uncheck the From Main Dictionary Only option. If this option remains checked, Word makes spelling suggestions based on words found *only* in its main dictionary.

Other options direct Word to ignore words you type in uppercase letters or words that contain numbers. If, during a spell check, you instructed Word to ignore all instances of a particular word, clicking Reset Ignore All on the Spelling tab directs Word to reset the Ignore All list so that the word processor no longer ignores any words during the current Word session.

You even can pause Word's spell checker in mid-stream and return to your current document without actually ending the spelling check. Here's how:

1. Point the cursor at the Spelling dialog box title bar (the dark strip at the top of the box).
2. Click the mouse. With the mouse button still engaged, drag the Spelling dialog box away from the document area you intend to edit.
3. Click the current document, or press CTRL-TAB to select it.
4. Modify your document as needed.
5. When you're ready to continue with the spell check, press CTRL-TAB, or click the Spelling dialog box to select it.
6. Click Start. Word resumes its spell check, beginning exactly where it left off.

With *Microsoft Word*, you can add technical terms, names, towns, and more to a custom dictionary. After you add a word to this dictionary, Word won't flag it in subsequent spell checks.



Creating A Custom Dictionary

You can create as many custom dictionaries as you need, but Word lets you open only 10 at one time. To create a custom dictionary, click Options in the Spelling dialog box, then click New in the Spelling Options dialog box. Word will prompt you for a file name and ask you to identify the drive and directory where Word is to store the dictionary. To add an existing custom dictionary to the Custom Dictionary list, click Add. Highlighting a custom dictionary on the list and clicking Remove removes this dictionary from the Custom Dictionaries list. It does not delete the dictionary permanently.

You can edit words in a custom dictionary, removing or modifying content as necessary. However, if you try to do this by clicking Options in the Spelling dialog box, Word displays the Spelling Options dialog box with the Edit Custom Dictionaries button grayed out (unavailable). To edit a custom dictionary:

1. Cancel the spelling check in progress.
2. Select Tools, Options.
3. When the Options dialog box opens, click the Spelling tab.
4. Select the custom dictionary that you want to edit.
5. Word pops up an alert box stating, "This operation will allow you to edit the custom dictionary as a Word document. Do you want to continue?" Click Yes.

Word then presents the custom dictionary as a list of words, which you may add to, delete from, or edit. ●

by Carol S. Holzberg, Ph.D.

Quattro Pro 6.0

Creating Your First Graph

As a spreadsheet tool, *Quattro Pro* is adept at helping you keep a lot of information organized in spreadsheets and notebooks. You can open a spreadsheet at any time and add, edit, or delete data easily. Everything changes, however, when you have to convey the meaning of that information to others.

Graphs are an excellent way to convey information that may be confusing or meaningless in a regular spreadsheet format. Before you can start graphing your data, however, you need to learn how to choose different kinds of graphs to enhance the delivery of information in your spreadsheets.

A **graph** is simply a visual way to present numbers in a manner that has comparative impact. There are three basic types of comparative graphs (or charts): pie, bar, and line.

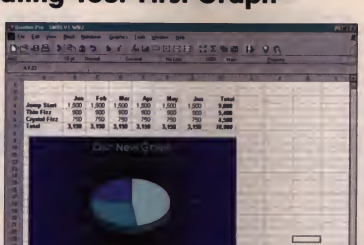
Pie chart. This chart best shows values as a percentage of an overall value. For example, you could show the percentage of readers who actually try this Quick Study as a percentage of all Quattro Pro users who read this page.

Bar chart. This conveys values that occur as part of a series of values. Bar charts are a great way to show, for example, how many readers read the Quattro Pro Quick Study each month. You can use a single vertical bar to represent January's reader level, another bar to show February's level, and so forth. You can make as many bars as you like, but the busier the bar chart, the less meaningful it may be.

Line chart. This is a great method for tracking a lot of progressing detailed on a single chart. For example, you could use a line chart to plot each month's number of readers over a series of 12 months. If you carefully choose the line used in the chart, you can plot several lines on the same graph, letting you compare several sets of detail.

Choosing the kind of graph that best conveys meaning is key to the value of any charted information. For example, your company may manufacture two items: widgets and dingbats. You may want a graph to illustrate how much of your company's business is in widgets vs. dingbats in any given period. If you want to use a graph to present percentages of a total, pie charts do this better than most other forms of graphs.

If you want to show how many widgets or dingbats are manufactured over a period of time, you'll need a graph that presents this information along some sort of timeline. A three-dimensional bar chart can illustrate information occurring over a timeline. A pie chart would not convey any meaning in this case.



By mastering a few simple steps, you can create full-color graphs in *Quattro Pro* to convey data to readers in a meaningful way.

Creating A Graph

Quattro Pro can make a graph only if you tell it what information in a spreadsheet should be charted. To select data and create a graph with it:

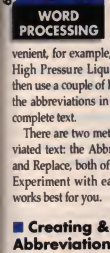
1. Open the spreadsheet that holds the data you want to graph. We recommend using a dummy spreadsheet for this initial run, such as Smbev1.wb2, which is included with Quattro Pro. This is a simple spreadsheet that provides data over a timeline (in months) as well as a portion of an overall value (the totals for three products). The file is in the \QPW\SAMPLES directory.
2. Using your mouse, select the numbers on the spreadsheet that you want to graph. Start with just a few numbers until you become familiar with the process. For our graph, we will highlight the three totals in the far right column.
3. Click the Graph Tool button on the button bar. Your mouse pointer will turn into a replica of the Graph Tool button. Move this pointer over a blank part of the spreadsheet, then draw a box. After a few seconds, a pie chart will appear.
4. From the Graphics menu, select Graph Gallery (Graphics, Graph Gallery).
5. Select a chart type from the Category list. To preview how your chart would look with a particular style, click any of the charts shown in the Style area.
6. Select a color scheme, then click OK to apply the selections to your chart.
7. To add titles, select Graphics, Titles, then enter the text for the graph's main title and subtitle. To add titles for the axes, enter them in the X-Axis Title: (for the bottom of the chart) and Y1-Axis Title: (for the side of the chart) fields. Click OK to finish.

Don't forget to save your work (choose File, Save As) and print your graph. You can always make further changes and enhancements later as you become a master at Quattro Pro graphing. ●

by Robert Mullen

WordPerfect 6.1

Expanding Abbreviated Text



Have you ever typed a document in which a lengthy name or phrase was repeatedly used? Rather than retyping the words, let *WordPerfect* do the tedious work for you. It's much more convenient, for example, to type HPLC instead of High Pressure Liquid Chromatography and then use a couple of keystrokes to replace all of the abbreviations in your document with the complete text.

There are two methods of expanding abbreviated text: the Abbreviations feature or Find and Replace, both of which we'll explain here. Experiment with each feature to see which works best for you.

Creating & Using Abbreviations

To create an abbreviation, highlight the text you want to abbreviate. For example, select the phrase "High Pressure Liquid Chromatography" in your document. Open the Insert menu, select Abbreviations, then choose Create from the dialog box (Insert, Abbreviations, Create). A list of existing abbreviations will appear along with several action buttons. Type in a short name for the selected text, such as **HPLC**, and click Close. Remember that abbreviations are case sensitive, so "HPLC" is different from "hplc." The abbreviation will be stored in the current template.

Once an abbreviation is set up, type the abbreviation in your document instead of the full text. There are several ways you then can replace the abbreviations with the expanded text, depending upon whether you want to replace one abbreviation at a time as you type or if you want to replace all of them at once.

One replacement method is to place your cursor in or just to the right of the abbreviated text in your document, or highlight the text, and press CTRL-A. The abbreviation will be replaced with the full text. This method works best if you press CTRL-A immediately after typing the abbreviation.

You can expand the text without first typing the abbreviation by positioning the cursor where you want the text to appear. Then choose Insert, Abbreviations, and double-click the abbreviation you want to expand, or highlight it, and click Expand. The text will appear at the cursor location, and you can continue typing.

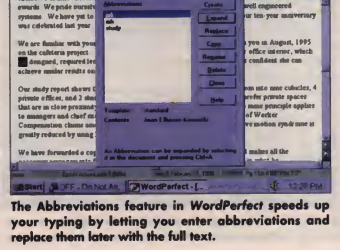
A quicker method is to type your whole document using the abbreviations and replace them all at once with a macro. WordPerfect comes with a macro, named EXPNDALL, which will expand all the abbreviations in your document at once. Save your document, then choose Tools, Macro, Play (or press ALT-F10), and double-click EXPNDALL. The abbreviations in your document will be replaced with the appropriate expanded text.

Deleting & Editing

To delete an abbreviation, choose Insert, Abbreviations, and highlight the abbreviation to be deleted. Choose Delete, then Yes to confirm the deletion; click Close to return to your document.

You also can rename an abbreviation (this option lets you change letter casing as well). Choose Insert, Abbreviations, highlight the abbreviation you want to rename, and click Rename. In the dialog box, type the new name. Click OK, then Close, to return to your document.

To change the text associated with an abbreviation, highlight the text you want to have as the new expanded text. Choose Insert, Abbreviations, and highlight the abbreviation to be updated. Click Replace, then Yes to verify the replacement. Click Close.



The Abbreviations feature in *WordPerfect* speeds up your typing by letting you enter abbreviations and replace them later with the full text.

Using Find & Replace

The Find and Replace feature also can be used to replace text in a document. Simply type your document, and use abbreviations instead of the full text. Make sure that you don't pick a real word for your abbreviation (remember to pay attention to letter casing), or you could have a mess on your hands after performing a Find and Replace operation. As a safeguard, save your document before doing a search. (You also can use the Edit, Undo and Edit, Undo/Redo History commands to bail you out.)

Press CTRL-HOME to move to the beginning of your document. Choose Edit, Find and Replace to display the dialog box. In the Find field, specify the text you want to find. In the Replace With field, specify the replacement text. Click Replace All to globally replace all of your shortened text with expanded text, then click OK.

Instead of a global replace, which replaces all matches at once, you can click Replace in the dialog box and make selective changes. When the cursor advances to the first match, click Replace to replace it and move to the next match, or click Find Next to leave the text unchanged and move to the next match.

Repetitive text and finger-twisting phrases don't have to slow you down. The Abbreviations and Find and Replace features help you work smarter and more efficiently. ●

by Diane Kaye Walkowiak

Lotus 1-2-3 5.0

Gallery Styles

oes this sound familiar? You have to submit a worksheet to your boss showing your expenses for the previous quarter; all the data is there, but the worksheet's appearance needs some attention. However, you are too pressed for time to experiment with the fonts, colors, and other graphics in *Lotus 1-2-3 for Windows*. You want to present your data in a better manner, but you repeatedly settle for the plain, vanilla look in order to meet your deadlines.

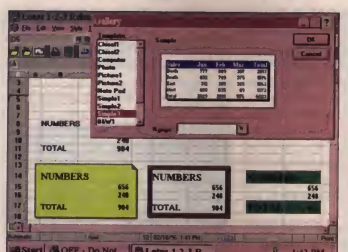
Fortunately, one thing you learn as you advance in your spreadsheet skills is that there are many shortcuts to creating what you want. Eye-catching presentations don't have to consume a lot of time if you know some shortcuts. When it comes to formatting cells, Lotus 1-2-3 comes with a gallery of 14 predefined styles you can pick from, or you can create your own styles to reuse later.

The Style Gallery

An easy way to give your data a more interesting look is to use the predefined styles in the Style Gallery. Experimenting with the gallery also can give you some ideas for styles you can create.

Assume you have created a worksheet that contains a section you want to emphasize by making it look like a yellow note. Highlight the range of cells you want to emphasize, open the Style menu, and select the Gallery command (Style, Gallery) to display the Gallery dialog box. A list of style templates is provided on one side of the dialog box; when you click a template, a sample is displayed. To display the range as a yellow note, you would click the Note Pad template.

The range you have selected will be displayed in the lower part of the dialog box. If you need to change it, type in a new range of cells or click the range icon to return to the worksheet where you can click and drag to select a range. Once you have the range and style selected, click OK to return to your worksheet and view the style you have applied.



The Style Gallery provides several options for changing the visual impact of your spreadsheet data.

If you want to change a range's style, repeat the procedure and select a different style for the range. If you want to clear a style and return the range to its original format, select the range and choose Edit, Clear, and click Styles Only. This will retain the data in the cell but remove any styles you have applied to that range.

Named Styles

You can create up to 16 styles of your own. A named style can include the number format, font and attributes, colors, patterns, borders, and the alignment of the selected cell.

To create a style, select a cell with a style you want to define as a named style, and choose Style, Named Style. Enter a name of up to 35 characters. Click Define, then Close to return to your worksheet. When you have other cells to which you want to apply this style, highlight the cell(s), and choose Style, Named Style. Select the style you want to apply, and click OK.

You can delete a named style by choosing Style, Named Style, highlighting the name of the style you want to delete, and clicking Clear. Deleting a named style does not affect any of the ranges where you have previously applied the style.

Style In A Hurry

Perhaps you want to make several ranges in your worksheet look the same as a cell you have already formatted. You don't want to save it as a style, but you want a fast way to apply it to different parts of your worksheet.

To quickly apply a style, use the Style, Fast Format command. Simply select the range containing the style that you want to copy. Choose Style, Fast Format. Your mouse pointer will change to a paintbrush. Select the range you want to format, and it will instantly assume the formatting of the range you first selected. To turn the command off, press the ESC key or choose Style, Fast Format again.

Quick Tips

A quick way to select a range is to click the first cell and then hold down the SHIFT key while clicking the last cell. If you need to reshape your selection, hold down SHIFT, and click a cell to either shrink or enlarge the range.

In some cases, you may need to highlight a collection of ranges that are scattered around your worksheet. To do this, highlight the first range, and hold down the CTRL key while selecting the other ranges. To remove a range from the collection, hold down CTRL, and click the range you want to remove. ●

by Diane Kaye Walkowiak

Quicken Deluxe 5.0

Financial Planning Tools

You undoubtedly have received this speech at some point in your life: "You *must* start planning for your financial future." Everyone would agree that planning for the future is extremely important. Starting the planning, though, is the hardest part. Without expert help, your plan probably will end up as more of a best-guess scenario.

After finally putting your plan in place, you'll need to track your financial gains, too. *Quicken Deluxe* can help you in both areas. While you probably won't want to turn over your entire retirement package to your computer (you never have trusted that shifty-eyed DOS), Quicken can be a valued subsidiary to the system you now have in place.

Using Financial Planner

Quicken can help you plan financially for next year's vacation, a down payment on a home, or retirement. Quicken Deluxe contains financial planning calculators that let you track your money, project your future financial status, or save toward a long-term goal.

To use one of Quicken's financial planning calculators, click the Plan menu at the Quicken HomeBase screen, then click the Financial Planners cascading menu. You can click any of the five available planners. We'll show you how to use each one.

NOTE: The Schedule button inside each planner's window will show you the financial status at a particular period or year.

Loan. Quicken will calculate your monthly payments for a loan you're considering. Enter the loan amount, interest rate, loan length, and frequency of payments in the fields in the Loan Information section to see the payment per period. If you adjust any of the amounts in these fields, Quicken will recalculate the payment.

Quicken also can calculate the total loan amount based upon the monthly payments you want to make. Click the Loan Amount button in the Calculate section to change the type of calculation.

Savings. Quicken will calculate the amount of interest you'll receive in a savings account. Enter the opening deposit, interest rate, life span of the account, and amount and frequency of additional deposits in the fields in the Savings Information section to see the final balance. Quicken will adjust your final balance to reflect the bite taken by inflation if you click the Ending Balance In Today's $ box.

Quicken also can calculate the opening balance or the frequency and amount of deposits you'll need to reach a certain savings goal. Click the Opening Savings Balance or Regular Contribution buttons in the Calculate section to change the type of calculation.

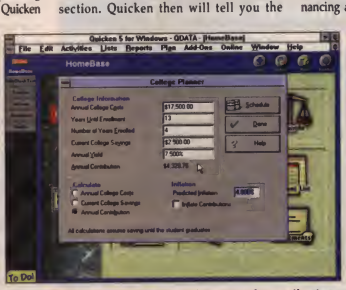
College. Quicken will calculate the contributions you need to make to a college fund. Enter the estimated annual college costs, number of years until the child reaches college age, number of years the child will be attending college, your current college savings, and annual yield of your investment account in the fields in the College Information section. Quicken then will tell you the amount you must save each year to reach your goal. Quicken can adjust the amount to reflect inflation if you enter an estimated annual inflation rate in the Inflation section.

If you click the Annual College Costs button in the Calculate section, Quicken will calculate the amount of college expenses you'll be able to afford based upon your current savings pattern.

Retirement. Quicken also can calculate your annual draw from your retirement savings account. Enter your current savings, interest rate, deposit amounts, other expected post-retirement income, and current and retirement ages in the fields in the Retirement Information section to calculate the annual amount of money you can withdraw from the fund. If you click the buttons in the Inflation and Tax Information sections, Quicken will adjust the calculated amount based upon taxes and inflation.

If you click the Current Savings button in the Calculate section, Quicken can calculate the initial deposit you must make to reach your annual retirement income goal. Also, if you click the Annual Contribution button, it will calculate the deposit amounts you must make to reach your goal.

Refinance. If you're considering refinancing a home loan, Quicken can help you decide whether refinancing will be advantageous for you. Type the monthly payment and escrow balance on your current loan in the Existing Mortgage section. Enter the principal amount, interest rate, and length of the loan you're considering in the Proposed Mortgage section. In the Break Even Analysis section, type the points and closing costs you'll need to pay. Quicken then will calculate monthly payments, the potential savings you'll receive, the total closing costs, and the amount of time you'll need to keep your new loan to break even. ●



***Quicken Deluxe* can calculate the annual contributions you must make to a college fund to reach a certain goal.**

by Kyle Schurman

Word Pro 96

Using Bookmarks

Most of us wouldn't attempt to read a lengthy book without a bookmark. Whether we use a fancy, lace bookmark with our name on it or resort to bending page corners, we all have some way of marking our place when we have to quit reading for a while.

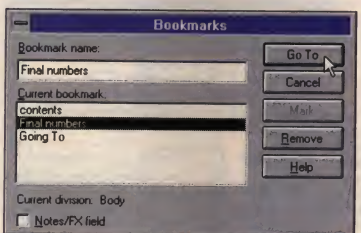
The concept of the bookmark isn't strictly available for printed books. *Word Pro* (for Windows 95) lets you set bookmarks in your documents. These placeholders provide quick reference or access to a particular area of your document.

For example, assume you have a lengthy marketing plan. Within this document is an overall rationale for the plan's budgetary numbers along with the actual numbers. You don't have the exact numbers yet, but you'll insert them once they are finalized. You can mark the related text—"*Following are the predicted revenue and expense numbers for July-December 1996*"—with a bookmark, providing quick access to the area where the final numbers need to be inserted.

This example is just one way you can save time with a bookmark, though there are many more. We'll explore the basics of using bookmarks to get you started.

There are two types of bookmarks. A **bookmark with contents** lets you move to a specific text item or object. A **bookmark without contents** lets you quickly move to a specific location. Both are created similarly.

1. To create a bookmark with contents, you'll need to select the text or object you want to mark. To create a bookmark without contents, you'll mark a specific location by placing the insertion point at that spot.
2. After selecting your text or placing your insertion point, choose the Create menu's Bookmark command (Create, Bookmark).
3. In the resulting Bookmarks dialog box, enter a name in the Bookmark Name field.
4. Click Mark. After doing so, placeholders that look like bookmarks will appear in your document. These bookmarks will not print with your document.



The Bookmarks dialog box lets you create, go to, and remove bookmarks within your *Word Pro* documents.

As an additional note about creating bookmarks, you can exchange document text between Word Pro and *Lotus Notes*. To embed the bookmark contents into a Notes document, select Notes/FX in the dialog box. For more information about Notes/FX, see Word Pro's online Help features.

Going To A Bookmark

Once your bookmark is set, it won't do you any good unless you can easily go to it. Word Pro lets you move to a bookmark in two ways: through the Create menu or through the Edit menu. We'll walk you through both.

To use the Create menu method:

1. Choose Create, Bookmark to open the Bookmarks dialog box.
2. Type the name of the bookmark, or select it from the list that appears under the Current Bookmark field.
3. Click Go To. Your screen will change, and your cursor now will appear at the bookmark's location. If the bookmark has contents, it will be highlighted.

To use the Edit menu method:

1. Choose Edit, Go To.
2. In the resulting Go To dialog box, find the Type Of Document Part To Go To text box. Then choose Bookmark from the drop-down list that appears when you click the arrow next to the text box.
3. A list of available bookmarks—including information about the section of the document the bookmark is found in, the bookmark's title, and any text or object it has as contents—will appear. Highlight the bookmark you want to go to.
4. Click OK. Your display will change, and your cursor will be moved to the bookmark's location. Once again, if the bookmark has contents, it will be highlighted.

After a bookmark has served its purpose, you may want to remove it. To do so, choose Create, Bookmark. In the Current Bookmark list box, highlight the bookmark to be removed, then left-click Remove. Word Pro will remove only the bookmark, not its contents. If you return to the bookmark, you'll notice that the placeholders are now gone.

Once you get in the habit of setting bookmarks, you'll discover a variety of uses for them. Virtually any time you have text or an object in your document that you know you'll need to edit, access frequently, or quickly find at a later time, you'll want to use a bookmark. Even though you can't dog-ear your electronic document's pages, Word Pro does let you quickly and effortlessly access them through bookmarks. ●

by Lori Beckmann Johnson

Microsoft Excel 5.0

List Management

Software packages are expensive, and there's always a learning curve involved when you purchase a new program. If you own *Microsoft Excel* and have discovered a need for database applications, you'll be happy to discover that Excel comes equipped with database functions.

Excel refers to its database management capabilities as **list management**. A list is a simple database consisting of a labeled series of rows that contain similar data. By looking at a list as a database, you can think of the rows as **records** and the columns as **fields**. By storing your data in list fashion, Excel automatically recognizes the list as a database.

The first row in a list contains column labels (or **field names**). The rest of the rows contain similar information. For example, a list could consist of the names, addresses, phone numbers, and account information of your customers. Each record would contain one person's name, address, phone number, and account data.

Once your list is created, managing it is easy. We'll walk you through a couple of the most-used database tasks you can perform with Excel. Use Excel's online Help to experiment with other database tools.

Sorting

When sorting a list, Excel examines the contents of a specified column and rearranges rows to place the information in a certain order. The sort order can be ascending or descending.

To sort a list, select a single cell in the list, and choose the Data menu's Sort command (Data, Sort). The Sort dialog box will appear on-screen. Excel automatically selects the entire list and excludes first-row column labels. The program even uses the labels to help you choose the Sort By column (the one by which you want Excel to sort).

Select the column you want to sort by in the Sort By field, and select either Ascending or Descending by clicking the proper circle. When sorted, rows with duplicate information in this column will appear in their original order. If you want to have these rows sorted by a second column, select the column labels from the drop-down list available in the first Then By field. To specify a third sorting column, select the column to sort by in the last Then By field.

Once you've selected your sort criteria, click OK. Excel will sort your list and display the rows in the order you specified. If you don't like this order, cancel it by immediately choosing Edit, Undo Sort.

Filtering

You also can **filter** your list, or temporarily hide all rows that don't meet specific criteria. Filtering makes it easier to edit a list, print a portion of it, or examine a subset of the list. To quickly filter a list, use a feature called AutoFilter, which lets you easily display a subset of your list.

To use AutoFilter, choose Data, Filter. In the resulting submenu, choose AutoFilter. After you do this, Excel will display drop-down arrows on the column labels in your list. By clicking one of these arrows, you can display all of the unique items in that column. To filter the list, select an item by which you want to filter. This item is called the **filter criterion**. Excel then displays only those rows that contain the filter criterion in that column. To filter your list further, choose another criterion from a different column.

You also can filter your list by specifying **custom criteria** for a column. To do this, select the Custom option from the drop-down list for a column. In the Custom AutoFilter dialog box, select the criteria you want applied, using the drop-down lists or by typing the information. This option is useful if you have a lengthy list from which you want to examine records containing information within a range of dates, dollar amounts, or invoice numbers.

If your database needs are limited, Excel offers powerful yet easy-to-use database features. Experiment with the ones we've shown you here, then read up about lists and list management in Excel's online Help. You just may save yourself from buying another expensive program. ●

by Lori Beckmann Johnson

Tips For Creating A List

Follow these guidelines when creating your list:

- Use only one list per worksheet.
- Avoid storing critical data to the right or left of a list; it might be hidden when the list is filtered.
- Create column labels in the first row of your list.
- Use a different font, data type, alignment, format, pattern, or capitalization style in your column labels so they look different from the data in the rest of your list.
- Don't use extra spaces at the beginning of a cell. This affects list sorting and searching.
- Use the same data and font format for all of the cells in a particular column. ●

Installing A Touch Screen

This process may sound high-tech, but it's not as hard as you think.

Most of us have let our fingers do the pointing and clicking on a touch screen computer at some time, either at an automated teller machine, a kiosk in a shopping center, or a museum. Touch screens let users press their fingers against the surface of a computer monitor either to enter information (such as a bank account PIN) or extract information (such as the location of a mall's shoe stores).

Few PC users realize, though, that any home computer can be modified to accept touch screen input. With a device such as MicroTouch Systems' TouchMate, a PC can accept touch screen commands the same way it accepts commands executed with a mouse and cursor. Users can "point and click" with their fingers to do anything from highlighting and copying text in a word processor to playing Solitaire.

Of course, you probably wouldn't want to use a touch screen to type a letter, run a spreadsheet, or work with programs that require a great deal of typing. But touch screens do have their uses.

For young children, a touch screen requires less hand-to-eye coordination than a mouse. A parent or grandparent might install a touch screen to let a preschooler run certain educational programs unassisted.

People with impaired motor skills can use touch screens to run simple applications. It's possible to program a touch screen-equipped computer to dial a telephone, adjust a thermostat, or perform other routine tasks.

Businesses are the most prominent users of touch screens. Greeting card companies use self-service touch screens to let shoppers create and print customized cards. Restaurants and stores use touch screens to enter orders, record sales, and print receipts. Stores, shopping centers, office buildings, and museums use self-service, touch screen computers to provide the public with directions and information. So do museums, government offices, and trade show exhibitors.

Touch screens are more durable than keyboards and don't require users to master the art of touch typing. Most touch screens are used with specially designed, easy-to-use software that features large, easy-to-read buttons. And, unlike keyboards, touch screens can't be used to hack into a company's accounting files or personnel records.

The Inexpensive Option

If you want to use touch screen input with your PC, you have three options: buy a touch screen monitor, adapt an existing monitor to accept touch screen input, or use a specialized device such as TouchMate that mimics the way a true touch screen works.

A typical 14-inch touch screen monitor lists for $995, roughly four times the cost of a comparable non-touch screen monitor.

Converting an existing monitor to touch screen input is cheaper. A typical kit for attaching a touch screen to the front of a 14-inch monitor lists for $645.

The easiest and cheapest option is to use a device such as the TouchMate that mimics a touch screen and lists for $545. Unlike true touch screens that use an invisible "grid" to determine where a finger (or pointing device, such as a light pen) touches the monitor screen, TouchMate uses three extremely accurate scales to "weigh" where and how much pressure is applied to the screen.

In fact, TouchMate bears a faint resemblance to a bathroom scale. It is 13.5- x 14.2-inches wide and just 1.7-inches tall. It sits underneath a computer monitor and, when pressure is applied to the monitor screen, calculates where the pressure is applied.

To get a better idea of the way TouchMate works, imagine yourself holding a thin plywood panel. If someone comes up from the other side

of the panel and presses on it, you can pretty much guess where they pressed the panel (and how hard) by the direction it tilts in your hands. TouchMate works essentially the same way but with greater accuracy.

A Sense Of Place

The TouchMate works with either DOS or Windows operating systems and is extremely easy to set up and operate. The only tool you'll need is a small, flathead screwdriver. You also will need a 3.5-inch diskette drive, a parallel port, and an electrical outlet. Getting TouchMate out of the carton may be the toughest part of the process.

You'll need to make some preparations before setting up TouchMate, particularly in terms of deciding where to put it. TouchMate uses special sensors and algorithms to cancel the effects that unstable monitors and shaky tables can have on accuracy, but you still won't want to set it on a rickety, old card table. It'll work best on a flat, solid, level surface.

If the mounting surface is stable but TouchMate wobbles, check the rubber "feet" on its bottom. The two back feet can be moved if necessary to provide a steadier base.

If you plan to use TouchMate as a self-service device, you won't want someone to accidentally knock over your monitor or walk away with it. Both the top and bottom of TouchMate have threaded holes that can be used to bolt the monitor to TouchMate and TouchMate to the mounting surface.

Although TouchMate needs to rest horizontally, it may be necessary to angle the surface of the monitor itself. (For example, you'll probably want to angle the monitor upward if it's sitting on a counter and will be used by someone standing up.) An optional inclined base can be attached to the surface of TouchMate to mount a monitor at an angle.

Many computer monitors are shipped with built-in swivel bases. If possible, remove the swivel base on computers that will be used with TouchMate. If you can't remove the base, you can stabilize the monitor with a special bracket.

Start the actual installation by attaching one end of the cord to the power supply socket on the back of TouchMate, then plug the AC adapter into a wall socket. Attach the black RS-232 cable to the back of TouchMate, then to the serial port on the back of the PC. Use the screwdriver to secure the RS-232 cable to both the PC and TouchMate. (In some cases, you may need a special adapter to fit the nine-pin RS-232 cable supplied with TouchMate to the 25-pin serial port on some computers.)

Users simply set their monitors on TouchMate to turn them into touch screens.

If you're using a swivel base monitor, assemble the stabilizer bracket and attach it to the back of TouchMate. (The bracket was omitted from the evaluation unit sent to us. Be certain when you purchase TouchMate to request a stabilizer bracket if you intend to use a swivel base monitor.)

Place the monitor on top of TouchMate, positioning it so that the monitor's center of gravity is above the middle of TouchMate. If you're using a swivel base monitor, adjust the stabilizer bracket so that all four pads of the bracket arms contact the back of the monitor.

Now loosen the two black bolt heads that secure the small metal brackets on the back of TouchMate. Place the monitor's power, video, and speaker cables in the brackets and tighten the bolt heads. Leave a little slack in the cables, but not too much. This step prevents the cables from flopping around and changing the monitor's center of gravity.

Calibration And Registration

Installing the software is the hard part when it comes to setting up TouchMate, and even that is not too difficult. Insert the *TouchMate User* diskette in the 3.5-inch diskette drive, open the Windows' Main program group, then double-click the icon labeled File Manager. Find the icon for the diskette drive (probably A:), then click it to open a list of the files on the diskette. Find the file named Setup.exe, and double-click it.

This launches a program that installs the software TouchMate needs to work with your computer. When the program is installed, it creates a new Windows program group labeled TouchMate. You'll use the programs contained in this program group to calibrate TouchMate to operate accurately. Open the TouchMate program group, then double-click the program icon labeled TouchMate Calibration. This launches a program that TouchMate uses to calculate the computer's center of gravity and compensate for vibrations.

Sometimes, TouchMate calibration will refuse to start (or "hang" in computer jargon). This may happen because your computer is running Windows in **real mode**. If the calibration program hangs, exit it by pressing CTRL-ALT-DELETE, then pressing ENTER. Exit Windows (ALT-F4, then click OK), and reboot Windows in **386-Enhanced mode** by typing **win/3** at the C> prompt and pressing ENTER. Now when you double-click TouchMate Calibration, the program should operate properly. (Real mode gives users a working environment in which only one program can be executed at a time. 386-Enhanced mode lets users run multiple Windows and non-Windows applications simultaneously.)

(*NOTE: This doesn't mean you need to run Windows in 386-Enhanced mode to use TouchMate. It simply means you need to run Windows in 386-Enhanced mode when you use the calibration program.*)

Follow the calibration program's step-by-step instructions. You will press the side of the monitor to determine the computer's side-to-side stability, then press the top front of the monitor to determine front-to-back stability. In a similar manner, you'll measure the side-to-side and front-to-back stability of the surface on which TouchMate sits. Then you'll use your finger to trace four triangles (in each corner of the monitor screen) and to touch four bull's eyes. After the PC gathers this information and uses it to adjust for the computer's weight distribution and vibration, it automatically shuts down the calibration program.

You're not through yet. Now the computer will ask you to register your personal touch preferences. You will press your finger against targets in the upper-left and lower-right corners of the monitor. This is fairly important. If you place your finger exactly on top of the target when you press the monitor screen, the cursor always will fall behind your finger when you use TouchMate. If you place your finger just below the target so you can see what you're pointing at, the cursor always will appear just above your fingertip. There is no right or wrong choice here . . . it's simply a matter of preference.

Fine-tuning TouchMate

You also will want to fine-tune TouchMate using the Visage TouchMate Control Panel utility. Open the TouchMate program group, and double-click the icon labeled TouchMate Control Panel.

The four Touch Type options determine how TouchMate responds when you press your finger against the monitor.

- The default mode, Mouse, operates like an ordinary mouse. When you place your finger on the screen, the cursor follows your finger as you move it across the screen. If you press harder, it reacts as if you pressed the left mouse button. This is the only mode that lets you drag and drop windows and graphics like an ordinary mouse.
- With Click Down, touching an on-screen menu or command button generates the same response as clicking once with the mouse. The command executes as soon as you drag your finger across the menu/ button.
- With Double Click Down, touching an on-screen menu or command button generates the same response as double-clicking with the mouse. The command executes as soon as you drag your finger across the menu/ button.
- With Click Up, on-screen menus and buttons don't respond unless you lift your finger off them. In other words, you can drag your finger across a menu or button without executing it.
- With Double Click Up, on-screen menus and commands don't respond unless you lift your finger off them. In other words, you can drag your finger across a menu or button without executing it.
- The sliding bar labeled Click Threshold controls the amount of pressure that must be used before TouchMate responds as if you had clicked the left mouse button. It can be adjusted from 10 (which requires very little force) to 120 (which requires much more force). The amount of force necessary to simply move the cursor is exactly half of the amount needed to generate a click. If you must press at the 80 level to generate a click, you only have to press 40 to move the cursor.
- Beep On Touch generates an audible "beep" whenever TouchMate detects a touch.
- The Screen Registration button launches the screen registration program used earlier to control where the cursor appears in relationship to your fingertip.

The same TouchMate program group that contains the TouchMate Control Panel and TouchMate Registration programs contains two more programs. Use TouchMate Driver to activate TouchMate, and use Unload TouchMate to turn it off.

Resolutions, Revelations, And Resurrections

TouchMate also comes with software necessary to use the device with DOS-based programs. (For some fun, use Windows' File Manager to open the TMATE directory and launch Tmdemo.exe, the *TouchMate Demonstration* program.) Coincidentally, DOS-based programs use relatively low-resolution graphics that are better suited to TouchMate and other touch screen devices than the high-resolution graphics used by most Windows programs.

In fact, touch screens are generally used with specialized programs that employ especially large on-screen buttons. Typical touch screen programs consist of little more than buttons used to call up lists or enter information from an on-screen list. Some may use a large on-screen numerical keypad for entering numbers, but few touch screen programs require (or allow) users to type on-screen.

Few of the programs you'll find on the shelves of a software, electronics, or discount store are designed to work with input from touch screens. To find touch screen programs, you'll probably need to deal with a firm that specializes in business or educational software. You even may need to hire a programmer to create a custom touch screen program or modify an existing application to work with touch screen input.

But don't let that intimidate you. A touch screen can be the perfect solution for some needs. And because most touch screen applications require neither high-resolution graphics nor high-powered processors, many otherwise "obsolete" computers can gain a second life as touch screens. ●

by J.W. Huttig

The calibration program in the TouchMate Control Panel lets TouchMate compensate for vibrations that may affect its ability to measure where the monitor is touched.

For More Information:

TouchMate
$545 (suggested retail)
MicroTouch Systems Inc.
(800) 642-7686
(508) 659-9000

For Portable Computers,

Bigger Is Better

The desktop computer is looking more clunky than ever next to this year's sleek new portables. Thanks to increasing competition and technological advancements, today's traveling offices are better, faster, and, ironically, bigger.

Good things, manufacturers have realized, don't always come in small packages. Years of increasing miniaturization slimmed portables but cut down on comfort as much as size. Typing on some subnotebooks is akin to finding an ampersand in a Lilliputian haystack. Today's trends appear to be moving in the opposite direction, thanks to the decreasing price of flat-panel displays. As portable cases are built larger to accommodate 12-inch screens, cramped keyboards are no longer necessary. The buzzwords in the portable marketplace are thin, wide, and light.

Bruce Stephens of the market research firm International Data Corp. adds another word to that list: competition.

"It's increasingly a buyer's market," Stephens says. "It's really, really heating up."

Stephens says IBM and Compaq in particular are looking to catch up to market leader Toshiba after falling off the pace a bit last year. Toshiba now offers the $1,999 Pentium Satellite 100CS. As of this writing, IBM's ThinkPad 365 line is the closest match at $1,999 to $3,499, although these models are based on the 486DX/75 processor. IBM is scheduled to announce a Pentium ThinkPad costing well under $2,000 by the time you read this, throwing down something of a portable gauntlet to the competition.

If other manufacturers run with the big dogs, the entry-level market could get interesting. Stephens says companies such as NEC, Texas Instruments, Sharp, Hitachi, Dell, and Hewlett-Packard are all pushing to increase their market share. Smaller firms such as WinBook continue to gain attention as well. The large number of vendors introducing lower-priced models, Stephens says, will result in more portable market wars than ever over features and prices. Lower prices and more interchangeable parts will be the hallmarks of the next year, he says.

Prices Down, Sales Up

With analysts declaring a saturation of the home computer market, portables represent an important growth market for manufacturers. Stephens says he expects increased portable purchases by multicomputer households. Experienced users might decide their next computer purchase should be one of the newest big-screen portables rather than the latest desktop. This line of thinking is big in the retail market, where computer superstores are looking ahead to the "next big wave." The industry will respond with more $1,799 and $1,999 price points, but Stephens cautions retailers not to go overboard.

"The reality is this is still largely a business market, a work-at-home market," he says. "It's not ready for Wal-Mart yet."

Portables will remain more expensive than their desktop, "family PC" equivalents, but the feature-to-dollar ratio will improve considerably. Instead of featuring 486DX/75-based machines, the middle of the year will present consumers with plenty of 8 megabyte (MB) RAM, Pentium notebooks for less than $2,000. Screen sizes at this end of the price spectrum may grow a bit, but the 12-inch and larger SVGA monsters will arrive first in the mid- to upper-level price ranges, the haunt of corporate travelers.

Portables in the $2,500 and up category will increasingly seem obsolete without a CD-ROM drive, stereo sound capability, and built-in speakers. Along with these obvious components for on-the-road presentations, some companies are introducing interesting combinations of computers and peripherals rolled into the same portable package. Canon's NoteJet IIIcx, priced at $7,500, costs as much as some cars, but the 10-pound unit includes a built-in scanner and printer. These kinds of machines are well over the fence of the average user's ballpark today, although developments at the top have a way of filtering down over time.

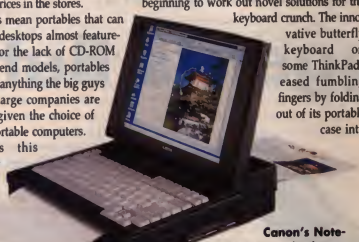
New Brains

A new breed of Pentium motherboard soon will be driving the bigger screens and fancy new abilities. Intel, maker of the popular Pentium microprocessor, plans to produce standardized notebook chipsets this year. The

daughterboard-like devices are designed to plug into new internal portable designs. This standardization will help drive down costs for manufacturers and prices in the stores.

Cheaper Pentiums mean portables that can compete with most desktops almost feature-for-feature. Except for the lack of CD-ROM drives in the lower-end models, portables already can do most anything the big guys can. Employees at large companies are increasingly being given the choice of either desktop or portable computers. Stephens expects this steady, modest trend of notebooks edging out desktops to continue. As screens become larger, portable users can give up less and less in exchange for the flexibility of movement.

For frequent flyers frustrated by continually adapting to tiny keyboards on the road after working on full-size models at the desk, the change to larger models would be readily apparent. Portable makers such as IBM were just beginning to work out novel solutions for the keyboard crunch. The innovative butterfly keyboard on some ThinkPads eased fumbling fingers by folding out of its portable case into



Canon's Note-Jet IIicx, priced at $7,500, includes a built-in printer and scanner along with its hefty price tag.

a full-size, gee-whiz wonder. Though elegant, the butterfly idea showed up late for the party. The design is headed for retirement this year in favor of wider, nonfolding models.

Not all keyboards will stay put. Samsung's new SENS810 features a standard 19 millimeter spacing board that splits down the middle to form the ergonomic V-angle gaining popularity on the desktop. The design is meant to reduce stress caused by repetitive typing. The keyboard also features the dedicated Windows 95 keys that some manufacturers would like us to think we can't do without.

What's good for the hands is even better for the eyes. The roomy new screens are sufficient for 800 x 600 pixel resolution, the standard for most desktops. More windows can be viewed at the same time, allowing for easier multitasking and information sharing.

Mobile machines are catching up to desktops in other ways as well. The memory-hog nature of Win95 effectively killed the 4MB RAM notebook computer. Today's minimum

Windows 95 Portables

Network connectivity is more important today than ever. If a portable can't tie into the network-linked desktop computer back home, it probably isn't worth much. Windows 95 includes a few built-in features to help get computers chatting. Briefcases make file synchronization a snap. Direct Cable Connection is a fast way to transfer files from one machine to another. The Dial-Up Server included with the *Microsoft Plus!* Win95 companion, which is sold separately for about $49, lets users log into a computer or a network over a phone line.

The Briefcase

Briefcase is the simplest of the three enhancements to use, yet it offers a powerful resource for those who split time between a portable and a desktop. A Win95 Briefcase is a lot like a folder, but instead of merely storing files, it keeps track of whether the files are up-to-date compared with their counterparts on the main computer.

Let's say you are working on a document called Report.doc both in the office and on the road or at home. To create a Briefcase on the portable computer, left-click any blank screen area. Select New, then Briefcase.

Once a new Briefcase is created, it appears on the screen of the portable. On the desktop computer, create and save a file called Report.doc wherever you usually save documents. Next, establish a link between the portable and desktop computer using Direct Cable Connection, *LapLink*, or any other software tool. Open the folder containing Report.doc on the main computer, and copy it by dragging it to the Briefcase on the portable computer. Terminate the connection, and haul the portable away.

After working on Report.doc with the portable, establish another connection between the two computers. Under the Briefcase drop-down menu, select Update All. The portable automatically will check to see which copy of Report.doc, the portable's version or the desktop's, was changed most recently. It then will ask if you want to update the desktop original with the portable copy. If you OK this operation, the two Report.docs will once again be brought into sync.

Direct Cable Connection

Direct Cable Connection (DCC) makes it easy to transfer files between two Win95 computers or even tap into a network. DCC requires some sort of connecting hardware such as a serial or high-speed parallel cable. Once the cable is connected to both computers, open the Direct Cable Connection application in the Start menu's Accessories folder.

With DCC, one computer is designated the "host," while the other is the "guest." Usually the desktop, network-connected computer is the best choice for host. This will enable the portable to use network resources such as printers while connected.

Files you want to use or transfer on the host computer must be in shared folders. To share a folder, briefcase, or an entire drive, left-click the item, and choose the Sharing option. Select the Shared As: radio button, then add a password if desired.

After you open Direct Cable Connection, a Settings box appears. Make sure the desktop computer is set to "host" and is listening to the correct port. A parallel cable connection is almost always through the LPT1 port, but the serial cable connection could be on one of several COM ports. To change the COM port

is 8MB, and many users will likely move to 12MB or 16MB. More of that new memory will be of the **Extended Data Out (EDO)** variety. EDO RAM, which uses special circuits to move information through memory 10% to 30% faster than "regular" RAM, showed up in many desktops last year. Toshiba was the first to introduce it in a popular portable, but other companies are sure to follow suit.

Another option approaching standard status is the infrared port, which allows the cableless transmission of data to receivers on printers, networks, and other computers. Though they can be quirky, infrared transmitters and receivers eliminate the hassle of hooking up special cables to the backs of machines that are not always that easily accessible. Infrared transmissions can reach across an entire room as long as there is a clear line of sight between the transmitter and receiver.

A lithium-ion battery is likely to power the whole operation. Older NiCad cells are virtually extinct, and Nickel-Metal Hydride (NiMH) batteries don't offer the same kind of lifespan as the Lithium-ion ones. The portables tugging furthest away from the electrical outlet have space for two batteries. Other machines let users replace components such as diskette drives with an extra battery.

This kind of flexibility is the key to portable success. Demanding users want to do everything on the road that they do at their desks. As manufacturers are learning, it doesn't matter if the machine is the smallest on the market, only that it is light, powerful, and easy to use. Portable perfection isn't quite here yet, but bigger displays and Pentium brains are chipping away at traditional desktop advantages. ●

by Alan Phelps

The IBM ThinkPad 760 is one of the first big-screen portables available.

Make The Connection

or the host/guest designation, left-click the Change button, and follow the on-screen directions. If DCC does not work, try changing the COM port.

Once you've set up the host computer and left-clicked the Finish button, do the same for the guest computer. Status boxes will be displayed on both screens detailing the steps both computers must go through to connect. When the connection is made, shared folders of the host computer automatically will be displayed on the guest computer's screen.

Dial-Up Server

The last application in Win95's trio of portable powerhouses is the Dial-Up Server. Dial-Up Server does not come with standard versions of Win95; it must be loaded from the Microsoft Plus! companion CD-ROM.

Dial-Up Server is like Direct Cable Connection in that it allows file transfers and access to company networks. Instead of using a short serial or parallel cable, however, it accepts phone calls placed by modem-equipped computers from next door or around the world. If Dial-Up Server is running on a Windows NT machine, it can handle as many connections as there are available phone lines. Under Win95, one connection is allowed at a time.

The Server can be tricky to get running, and Win95 Help files don't live up to their name in this case. To get started, open the Dial-Up Networking folder in the desktop host's My Computer, and select Dial-Up Server from the Connections menu. Left-click the Allow Caller Access radio button. Then left-click the Server Type button at the bottom of the box. Make sure the "Type of Dial-Up Server" listed is "PPP: Windows 95, Windows NT 3.5, Internet."

When Allow Caller Access is enabled, the computer will answer incoming phone calls. If you're not using the Dial-Up Server, remember to switch this off.

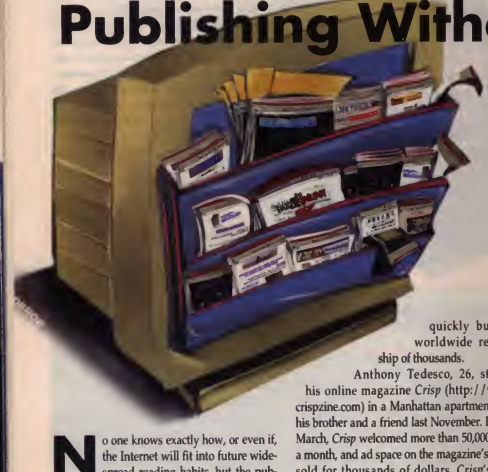
Next, make sure both the portable and network computer can speak the same language. In both machines, open the Network portion of the Control Panel. In the window that appears, make sure Client For Microsoft Networks, Dial-up Adapter, TCP/IP, and File And Printer Sharing For Microsoft Networks are all installed. If one or more doesn't appear, left-click the Add button to install them. In the Primary Network Logon box, select Windows Logon. On the desktop machine, left-click the File And Print Sharing button located near the bottom of the window. Check the box that says you want to give others access to files. Also on the desktop machine, left-click the Identification tab, and type an easy-to-remember name in the Computer Name box. If your computer already has a name, note it.

On the portable machine, open the Dial-Up Networking folder again, and make a new connection to the desktop. Dialog boxes take you through the process after you double left-click Make New Connection. The procedure basically involves selecting the portable's modem and entering the phone number for the desktop.

To test the connection, double left-click the portable's Dial-Up Networking icon that represents the desktop connection. The machine should dial and log onto the desktop computer. When the connection is established, go to the Run command under the Start menu. In the box that appears, type two backslashes (\\) and the desktop computer's name. Then left-click OK. A new window should appear displaying the shared drives on the desktop computer. ●

Publishing Without Paper

Magazines, Newspapers, And Television Networks Rush To The Web



No one knows exactly how, or even if, the Internet will fit into future widespread reading habits, but the publishing world isn't taking any chances.

Magazines by the hundreds administer sites on the World Wide Web, the Internet's graphical interface. Newspapers are flocking to set up electronic pages. Even television networks such as CNN run full-blown news services online. Along with gaining valuable experience on what may be the dominant medium of tomorrow, a few publications are actually making money on these ventures.

Even more indicative of the future, perhaps, are the electronic books, magazines, and newsletters that don't mirror equivalents in the paper realm. The Internet makes it easy and cheap for anyone, in nearly any corner of the world, to set up a soapbox and start making noise. Little expertise is required. No expensive printing presses, cutters, binders, folders, or other machines are needed; it takes only a computer and modem. A distinctive site can quickly build a worldwide readership of thousands.

Anthony Tedesco, 26, started his online magazine *Crisp* (http://www.crispzine.com) in a Manhattan apartment with his brother and a friend last November. By this March, *Crisp* welcomed more than 50,000 visits a month, and ad space on the magazine's pages sold for thousands of dollars. *Crisp*'s only expense, Tedesco says, is hard work and about $50 a month in long-distance phone charges.

"We would never be existing without the Internet, that's for sure," Tedesco says. "It takes a lot of the cost out. It definitely kind of levels the playing field."

Not every site matches the success of *Crisp*. For every strong online publication, dozens more must lurk in the dark corners of the cyberspace newsstand, rarely thumbed through or perhaps not even noticed. It's hard to stand out in a Web world that seems to move at Warp 11. The sites that generate traffic must possess not only a message but an understanding of this fascinating new medium.

It Isn't Paper

Kevin Wendle, one of the Fox Network's founders, spent 22 years in the television industry. Today, he's executive producer of CINET online (http://www.cnet.com), a large, well-traveled Web site that brings news, reviews, and shareware to computer users everywhere.

Wendle says a successful Web site must follow a television model. Like TV sets, computers sit in front of our faces, filling screens with sound, pictures, text, and above all, he says, immediate information. A lot of people coming online from the publishing world might imagine a good content idea for the Web and ponder how to get it online next week or next month. Those with a background in television, Wendle says, think about how to put something up on the Web in the next half hour.

It's a critical difference. Many Internet users look to their computers for the latest news and information. Rather than waiting for the story in which you are interested to come around again on CNN, you can look up CNN's Web page and flip right to it. The Web has become a sort of newswire straight into the homes of millions. Web regulars expect to find new information, new shareware, and new pictures with each logon.

"The Web offers the immediacy of television," Wendle says. "The way we look at CINET online is a 24-hour television network. If there is a big development, we'll throw up an analysis as soon as we have a chance to digest it."

On the other hand, the Web offers much more than a simple TV broadcast. Time severely limits the amount of information television programmers can provide. Viewers see only the newsclips broadcasters think are most important, flowing by in a specific order. Everyone must watch shows designed to appeal to the widest audience possible, which often means shows catering to the lowest common denominator.

"TV, by definition, is superficial in that you can only communicate so many words in a given time," Wendle says. "Online, you can go into much greater detail on a subject."

The Web is a virtually unlimited resource. Users can investigate a matter as far as their interest takes them. The newspage on CINET, for example, covers a variety of computer industry news stories. Users can skim the headlines or click one for further information. Inside a story, another level of **hyperlinks**, which connect related Web sites, appears. One might lead to the Web site of the company in question, where readers could find more information from the perspective of the company itself.

For larger stories, Web publications have the opportunity to go beyond a 60-second TV piece filled with five-second sound bites. Wendle says three CINET reporters covered the Windows 95 launch gala in Redmond, Wash. As soon as Bill Gates took the stage, digital photographs of his speech were being sent electronically to CINET offices in San Francisco and incorporated into Web pages. Transcripts of the entire event were available online immediately after the speech was over.

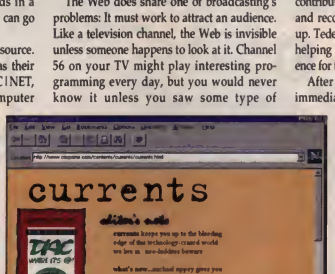
"Where else are you going to get that kind of coverage?" Wendle says. Television might devote a couple of minutes to the story. Magazines might print more information, but readers would have to wait for it to be printed.

Though computer news is what today's Web journals seem to do best, few topics are neglected. Everything from small London nightlife 'zines to *The New York Times* provides countless perspectives on more stories than even the best newsstands can boast. It is equally available anywhere the Internet reaches, from Alaska to Argentina.

The Web combines in one swoop the advantages of previously existing media with few of the disadvantages: the immediacy of television without its shallowness, the depth of newspapers without the cost and time of printing. To this mix, it adds the interactive nature of the computer, letting users choose what they want to see and allowing easy feedback to content providers along the way.

Getting Attention

The Web does share one of broadcasting's problems: It must work to attract an audience. Like a television channel, the Web is invisible unless someone happens to look at it. Channel 56 on your TV might play interesting programming every day, but you would never know it unless you saw some type of advertisement for the channel, heard about it from an acquaintance, or happened across it yourself one evening. Unlike magazines, television channels have no display racks at airports or coffee shops. People see the cover of the latest *Time* magazine when waiting in line at the grocery store, but to find *Time's* home page, you must seek it out.



***Crisp* is a popular New York Web magazine put together by three people in a Manhattan apartment.**

It isn't hard for Web users to find a certain page among the Web's 20 million or so if they know it exists. Several quality Web indices are beginning to organize sites in a more useful manner. Search tools such as Lycos (http://www.lycos.com) or Alta Vista (http://altavista.digital.com) constantly grow more sophisticated, giving users a way to pinpoint the location of information they need. Still, most sites find drumming up readers much more difficult than the publishing itself.

Crisp's Tedesco says the best way to attract and keep an audience on the Web is by following the same lesson other media publishers learn: provide distinctive, useful content. The idea behind *Crisp*, for example, is to bring together creative work from young people around the nation. The best submissions are selected for publication by a system of volunteer contributing editors, who are young publishing and record company executives on their way up. Tedesco says this idea of twentysomethings helping twentysomethings find a wider audience for their work is what makes *Crisp* unique.

After distinctiveness, Tedesco repeats the immediacy mantra of other Web publishers. Stories must be updated frequently to keep up with readers who might sign on once a week or once a day. With an eye toward the Web's mostly young audience, Tedesco also tries to keep things lively.

"The stories have to be a lot quicker, visually engaging, definitely shorter, with a faster impact," he says.

Another key for *Crisp*, Tedesco says, is the first-person narrative. News in small Web publications is likely to speak with more of a voice than the neutral objectivity attempted by mainstream newspapers.

"It's in the Web's nature to put the power of publishing in the individual," he says. "We've worked hard at keeping that basement feel."

Crisp also includes "shared content," or hyperlinks that lead to certain writers' personal Web sites. On the Web, writers can set up shop on their own and generate readership by cultivating links from various publications. Some Web publications are composed entirely of links to other authors' sites. In this kind of publication, the editors aren't actually creating content, but they provide a service nonetheless by weeding out the fluff that overflows online. People appreciate sites that make the Web manageable, Tedesco says.

Making Money

Appreciative readers translate into eyeballs for advertisers, which means money for *Crisp*. According to the market research firm SIMBA

Information Inc., Web advertising revenues totaled around $4.5 million a month at the beginning of this year—a growing and lucrative market publishers must tap to keep the computers humming. One of *Crisp*'s first advertisers was the Internet access provider who provides the Web server housing *Crisp* online. Because of fierce competition among Web servers in the New York area, the magazine gets free Web space in return for advertising space.

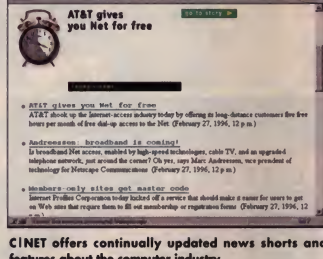
"It's been surprisingly simple to work out advertising trade agreements for all our serving needs," Tedesco says. The lack of publishing expense lets *Crisp* keep its cost low. Tedesco is the only full-time employee. His brother, Paul Tedesco, and friend, Thomas Elia, both tend to other jobs in addition to *Crisp* duties.

Despite their lack of real-world professional trappings, the three manage to attract some high-powered advertisers such as MasterCard and AT&T with the lure of 50,000 visits a month to the site. It is difficult to tell how many people make those visits, but Tedesco says publications with similar traffic counts charge up to $20,000 a quarter for ad space. *Crisp* isn't up to those standards yet, but its rates are rising.

At *Crisp*, ads run vertically alongside numerous table of contents pages. This system differs from the industry norm in which ads run horizontally along the tops and bottoms of pages. Most ads on the Web are hyperlinked to companies' own Web sites, and *Crisp*'s ads are no exception. Tedesco says the rate at which viewers click ad links in *Crisp* is 95%, the highest of any online publication.

Despite those kind of numbers, Tedesco says, many advertisers still are skeptical of the Web. The three *Crisp* staffers spend most of their marketing time targeting businesses that already have Web sites of their own and want to drum up some traffic. More than 180,000 Internet sites are registered to commercial enterprises with thousands being added every month.

That advertising pool drives C|NET as well. Some other large content providers, such as *The Wall Street Journal*, follow a subscriber-based model in which readers pay for access to a site. Wendle and a majority of other Web publishers see advertising rather than subscribers as the dominate moneymaker online at least for the short term. Most advertisers are still in the early stages of the Web learning curve, Wendle says, but many are becoming comfortable with the medium and see the results. Companies such as IBM, Intel, and MCI understand the technology and have a willing audience of computer users online, he says.



C|NET offers continually updated news shorts and features about the computer industry.

"We believe the real opportunity is advertising revenue," he says. "At this point in the game, there may not be enough consumers out there willing to pay for content."

Wendle again likens the Web to television. While viewers might pay to see a special boxing match, most expect the evening news to be free. "If you want a premium service, you need to create content people will be willing to pay for," he says.

So far, the Web is not up to that challenge. If one site begins to charge for information, others pop up to offer similar content on an ad-driven basis. Most people already pay fees to connect to the Internet and don't appreciate extra charges for viewing specific pages.

With the right content at the right time, that could change. No one is sure how Web profits of the future will be made with the Internet world changing every week. Tomorrow's 'Net will bear little resemblance to today's achingly slow system in which most users connect over primitive phone lines. Industry dreamers refer to present modem speeds of 14.4 and 28.8Kbps (kilobytes per second) as "low-band" connections. Low-band access is suitable for text and simple graphics, but audio is scratchy and video is a joke.

Publishers look to the day in the not-so-distant future when "mid-band" connections begin to proliferate. The technology is here: Coaxial cable bringing television programs to many American homes can handle Internet transmissions at 700 times the rate of standard phone lines. A few cable modems, such as Motorola's CyberSURFR, already are available. It might be a few years, however, before cable operators lacking sophisticated switching equipment begin offering 'Net access to customers.

Wendle looks to cheap, widespread, mid-band access as the spark that will fuel the next stage of Web growth. By incorporating moving pictures and other multimedia elements, the Web could better compete with television, radio, and print for the title of information provider to the masses. Eventually, the holy grail of Internet access, so-called "broad-band" speeds, could wrap all electronic media into one cable.

As the Web becomes more like television and radio, Wendle says, publications won't be so cheap or easy to operate. Different sites will battle to keep up with each other's technology and techniques.

"Companies putting resources into it now will be the companies best positioned for broad-band environment," Wendle says. "We're figuring out now how to incorporate video and audio. We'll be ready."

When everything finally does come together, companies such as C|NET stand to increase visitor counts and ad revenue substantially. Assuming, that is, they don't get beat out by those who already control much of the media. Intel and other computer industry companies predict the day when everything—phone communications, television, the Web—will flow over a future version of the Internet. The endless possibilities have some publications running scared and others dreaming of dollar signs.

Way New Web

Besides growing a bumper crop of Silicon Valley millionaires, 'Net enthusiasts envision

se • CNN • USA Today • ESPN Sportszone • Yahoo • Hawaii • NASA • MTV Online • Discovery Channel • Shareware • NBA • Library of Congress • Bargain Finder • Business Newswire • Rock and Roll Hall of Fame • The Louvre • Net City • NetAmerica's Job Bank • Britannica On-line • Weather Net • The United Nations • CIA

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widespread, high-speed Web access redefining the way publications are written and used. Online, the idea of a prolifically hyperlinked, interactive network spawned the term "Way New Journalism" to describe the future of news gathering.

Way New Journalism means different things to different people, but it usually includes a couple of elements. The first is the amazing depth and breadth of easily accessible information already developing. A person reading a local news story on the most recent city council meeting might click Council-member Jane Smith's name or video image. The link could provide a path to Smith's own home page area, voting record, résumé, or whatever else she or the city chooses to make available. Another click could begin a 'Netwide search for any other story ever published concerning Smith, letters to the editor for and against Smith, and details on the projects Smith supports and opposes. Some of this information may cost money to obtain, depending upon whether the source is subscriber-driven or advertisement-driven.

The other component of New Journalism is a shift in the power of the press from the few to the many. Undoubtedly, a few main news sources will remain the most important conduits for people to find out what is going on in the world. The trustworthiness and quality built up by the established news organizations will continue to be important. However, if Jane Smith doesn't think the *Local News-Herald's* profile on her was entirely fair, she can put up a response on her own Web site. The fact that she doesn't have access to today's system of newspaper distribution, from fleets of trucks on down to teenage newspaper carriers, means much less in a world of electronic communication. On the Web, her site is just a few keystrokes away from any reader.

These options are open to anyone, from governments to corporations to terrorist groups. The average citizen will have access to more information than ever before in a Web-dominated publishing world. But not all of it will be useful, or even truthful. In that respect, Way New Journalism isn't so different from Plain Old Journalism. At least on the Web, there is always someone else willing to provide a second opinion. ●

by Alan Phelps

Extra, Extra!

Read All About It (Online)!

Whether it is a hope for profit or simple hype, the Next Big Thingness of the Internet keeps a steady stream of publications popping up. Some of the more prominent Web publications are basically hypertext versions of paper editions, while others are completely electronic and proud of it. A short list of hot spots includes the following:

Time-Warner's Pathfinder (http://pathfinder.com) probably is the site to beat in the area of news on the 'Net because of the vast number of publications in the company's empire. *Time*, *People*, *Sports Illustrated*, *Entertainment Weekly*, and a handful of other popular magazines all can be accessed from here. Users can search through back issues, read current stories, and take part in ongoing discussions about news events.

CNN (http://www.cnn.com) takes its global news-gathering resources to the 'Net at a well-presented Web site full of pictures. Television networks aren't what people usually think of as "publishers," but the online world is a whole new ball game.

The **Point NOW** (http://www.pointcom.com/now) newsguide is an example of the potential of the Web to pull together news from many different sources. Links at Point's daily newssite lead to the top stories culled from electronic newspapers around the world. A story about the Canadian Prime Minister might come from the *Montreal Gazette*. A Middle East headline might be a link to the *Jerusalem Post*. This sort of convergence offers plenty of different viewpoints conveniently packaged into one site.

iGuide (http://www.iguide.com), the new service from MCI and News Corp., is the sort of slick 'Net directory/newssite we expect to see more of in the future. Contents are divided into subject areas, which contain both original stories by iGuide staffers and links from the iSite directory. The graphics-rich, attractive pages are easy to navigate, but iGuide's creators could do a better job of drawing on the Web's resources.

The New York Times (http://www.nytimes.com) offers all that's fit to link in the Web version of America's paper of record. *The Times* requires a free registration to use the site, but filling in the short form is worth the information provided.

Buzz Online (http://www.buzzmag.com) is a regional magazine that details what's happening in the Los Angeles area. Movie reviews, Hollywood rumors, and L.A. entertainment are covered along with an impressive section of short fiction.

The City by the Bay lives on the Web at **The Gate** (http://www.sfgate.com), a collaboration between the area's two major newspapers, the *San Francisco Chronicle* and the *San Francisco Examiner*. The latest news, columns, and classifieds are available, along with a guide to surviving the Next Big Quake.

If you don't find something interesting in this short survey, a good place to look for the news you can use is the listing at **PointCom** (http://www.pointcom.com/gifs/news). The people behind this site travel the Web constantly on the lookout for sites to add to their "Top 5%." The publications detailed here are among the best on the Web. ●

iGuide: A snappy source of news and features online.

The Gate: San Francisco news and earthquake tips.

CNN: Get the headlines without being forced to watch fashion reports.

Before using what you found on the Internet, ask yourself:

'Who Owns The Information?'

When Gutenberg first turned the crank on his printing press, he not only revolutionized the printing industry, he also paved the way for the mass distribution of information. The invention of the movable-type press eventually made it possible for anyone—rich and poor alike—to purchase a cheap newspaper or book and be instantly enlightened on the news of the day. In short, access to information was no longer the privilege of the wealthy, educated, and well-connected.

More than 500 years later, the Internet is having a similar revolutionary effect on the way information is communicated among individuals. Instead of simply being passive readers of data, Internauts now have the chance to actively share their own information—ranging from theories on why the dinosaurs became extinct to pictures of family pets—with the entire world. The overwhelming success of this two-way, information street is illustrated by the popularity of the World Wide Web, which now contains more than 20 million pages of information and is growing at a rate of a few thousand pages each day.

Ironically, however, it is precisely the Internet's ability to absorb, digest, and disseminate vast amounts of information that has forced users to address the issue of online property rights. Although scholars, government officials, businesses, and others have demonstrated the benefits—such as global data sharing, fingertip access to international resources, and a universal audience—of the Internet, less honest users have taken advantage of the free access on the Internet to plagiarize texts and ideas, violate copyright laws, and pirate software. Fortunately, it's possible to diminish the negative effects of these criminal activities by combining the strong arm of copyright legislation with a little foresight and diligent awareness. We've outlined the essential principles of your rights as a publisher of information on the Internet and how you can protect yourself against those who would steal your online property.

Copyright On The 'Net

The copyright laws that apply in the virtual world of the Internet are fundamentally no different than those that apply to any copyrightable work—such as a training manual, a poem, a musical score, a computer program, or a home video—in the physical world. Since the U.S. Copyright Act was revised in 1988 to meet the conditions of the Berne Convention, the primary international copyright treaty, every copyrightable work completed after March 1989 gains its copyright protection immediately upon creation.

Furthermore, when any copyrightable work is completed, either on- or offline, it instantly becomes the property of its owner. The owner, who may be either a work's author or creator or the business or individual who commissioned a work, is granted certain legal rights over the work. The most important rights are the exclusive rights to copy, modify, sell, and distribute the copyright-protected work. These rights are seldom violated in the physical world. Most people respect the property of others and have little reason to claim ownership of works they did not create.

Many online users mistakenly—albeit understandably—believe a different set of copyright laws apply online, however. These users fail to comprehend the purpose of the copyright legislation, and they don't realize the potential consequences of failing to respect these laws. Nevertheless, ignorance is not a legal excuse, and it's important for all Internet users to be aware of their rights as information users and providers on the Internet.

Users first must understand the reasons for promoting copyright legislation. "The ultimate purpose of copyright legislation is to foster creation and dissemination of intellectual and artistic works," says G. Peter Albert Jr. of the Harness, Dickey & Pierce law firm in Ann Arbor, Mich. "An important secondary purpose is to give authors the reward due them for their contribution to society," he adds.

Creating such an environment on the Internet invites information distributors to share their information with the world. This ensures the continued dissemination of information online and moves the Internet a little closer toward becoming the world's first—and best—source for information. Conversely, failing to create such an environment could have a devastating effect on the growth of the Internet, by stifling information distribution and discouraging the promulgation of original ideas.

Users also should realize that all original information posted to the Internet after March 1989 is the legal property of the person or business that owns the information. This covers

virtually every text file, graphics file, and software application found online. Even if a file does not reveal that it's copyright protected, you still can be prosecuted for infringing on that copyright.

Therefore, for your own legal protection and out of respect for the work's author, it's prudent to assume that all information found on the Internet is protected by copyright laws. If you intend to use a piece of information for wide distribution, plan to charge a fee for information you acquired from the Internet, or mean to use information found on the 'Net for some other personal reason, you should contact the owner of the material, the Copyright Office, or a lawyer who specializes in copyright law for legal advice.

Just as you should be aware of your responsibilities as a user of information, you also should know how to protect your rights as a publisher. The most effective means of copyright protection is to register all original works with the U.S. Copyright Office. Doing so guarantees that anyone who is caught violating the copyright protection of any work will be punished to the full extent of the law.

Although it may seem difficult to enforce copyright protection on the Internet, in actuality it can be done quite effectively, says Lance Rose of the Lewis & Roca law firm in Phoenix and author of the book "NetLaw."

"Though you can't keep any one individual from copying something illegitimately," Rose says, "you can make it so hard for them that you force them into some type of underground economy."

Fortunately, registering a work with the Copyright Office is as easy as licking a stamp or two and simply involves sending a copy of the work, an application for registration (obtained from the Copyright Office), and a $20 registration fee to the U.S. Copyright Office. Within six months, you will receive notice that your work has been registered. Acquiring copyright protection for the information you post to the Internet not only protects your intellectual property but also promotes the Internet as a credible distributor of information. ●

by Jeff Dodd

Special thanks to Larry E. Vierra of the Fliesler, Dubb, Meyer and Lovejoy firm in San Francisco who provided legal information for this article.

For More Information:

U.S. Copyright Office
Register of Copyrights
Copyright Office
Library of Congress
Washington, D.C. 20559-6000
(202) 707-3000
http://lcweb.loc.gov/copyright

For Applications:
Publications Section LM-455
Copyright Office
Library of Congress
Washington, D.C. 20559-6000
(202) 707-9100

Protecting Yourself Online

Below are four brief descriptions of how copyright laws protect some of the information distributed online.

E-mail. Every line of text contained in an electronic mail message receives copyright protection and usually is considered the property of the sender unless the message occurred within a business system, in which case the business may retain some ownership rights on in-house correspondence, says Lance Rose of the Lewis & Roca law firm in Phoenix and author of the book, "NetLaw."

In the case of E-mail, a distinction also must be made between privacy rights and the ownership rights granted by copyright laws. Some online systems reserve the right to disclose the contents of personal E-mail, usually for legal or commercial purposes. However, the disclosed information cannot be published or distributed outside the system without the permission of the sender. Check your service's terms of service for details on its policy.

Text files. Online text files, including original works of fiction, poetry, research papers, biographies, financial reports, correspondence, essays, journal entries, and notes, receive all of the same copyright protection that their hard-copy cousins enjoy. Some users, however, mistakenly believe that online texts are public domain because they are free and have an expansive circulation. Other users fail to respect the copyright protection of online texts because their authors often are unpublished in hard-copy format. Remember: Justice is blind, and a user who violates the copyright protection of an obscure work will be prosecuted just as harshly as a user who violates the copyright protection of an important work.

Graphics files. Like text files, online graphics files, including digital images, animation, clip art, and charts, receive complete copyright protection. All images found online are the property of the artist or photographer who created those images. Therefore, unless they are clearly marked otherwise, online graphics and images cannot be copied for use at another Internet site or in a newsletter or magazine without the artist's permission. Similarly, online images should not be used to create new images or collages without the artist's permission.

Software. Software applications found online are either known as **shareware**, which require payment for usage, or **freeware**, which do not require payment. These applications, much to the surprise of users everywhere, were purposely placed online for free distribution. Unlike pirated software, which is software that is not supposed to be distributed freely online, shareware and freeware are marketing ploys to attract users to a product. In the case of shareware, the users get to sample a product before buying it. If the users aren't satisfied, they don't register or pay for the product; if they like the product, however, they're obligated to register and pay for it. Freeware, on the other hand, is designed to entice users to try a full or limited version of a product for free in the hopes that they'll enjoy it enough to purchase another program or remaining parts of a limited version from the manufacturer.

Although these programs are available to anyone with an Internet connection, they remain protected by copyright laws. Stealing the programming code to create a new program, repeatedly using shareware without registering it, or charging other users for freeware are just three examples of shareware and freeware copyright infringement. ○

Find It PLUGGED IN ONLINE

U.S. Copyright Office
http://lcweb.loc.gov/copyright

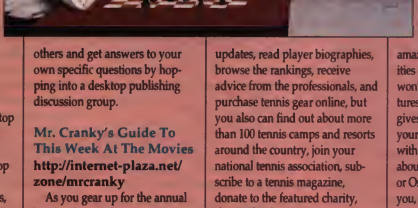
Protect your original works by registering them with the U.S. Copyright Office before you release them for worldwide distribution on the Internet. This Web site tells you how to copyright everything, including poetry, music, fiction, visual art, computer games, pantomime, and architectural works. It provides the phone numbers and addresses of the Copyright Office, a detailed summary of the copyright law, a searchable database of all copyright-protected works produced since 1978, information about similar laws, and links to other copyright-related sites.

DTP By Lee
http://www.oo.com/~bennett

Next time you have a desktop publishing question, come on over to Lee's. This site offers links to sites that cover desktop publishing (sometimes called DTP) software and accessories, layout issues, fonts, art, graphics, and general desktop publishing information for the beginner or the expert desktop publisher. To guide his visitors, Lee gives a brief description of each link and points out the best areas on each linked site. The many sites, including the Warren Idea Exchange, that offer creative and practical assistance for desktop publishers are particularly helpful.

DTP Internet Jumplist
http://www.cs.purdue.edu/homes/gwp/dtp/dtp.html

Don't let the frogs scare you. The DTP Internet Jumplist provides links to numerous desktop publishing-related sites, including answers to FAQs (frequently asked questions), downloadable fonts and graphics for your publishing needs, printing information, and an easily searchable index that lets you leap right to the information you need. In addition to receiving all of this information, you can advise others and get answers to your own specific questions by hopping into a desktop publishing discussion group.



Mr. Cranky's Guide To This Week At The Movies
http://internet-plaza.net/zone/mrcranky

As you gear up for the annual bombardment of summer movies, make sure you stay tuned to Mr. Cranky. He'll tell you—in no uncertain terms—why you shouldn't waste your money on that overhyped, underacted, astronomically budgeted, flim-flam film. This site isn't for the faint of heart (or those sensitive to the occasional %!#?!) nor is it for anyone who enjoys most Hollywood productions. But for those who have had it with repetitive story lines, babbling scripts, and talentless nincompoops parading on the big screen for mucho dinero, pull up a modem and enjoy! By the way, Mr. Cranky is an equal opportunity critic so don't miss his Guide To Rental Movies.

Tennis Country
http://www.tenniscountry.com

Learn how to improve your serve or catch up on the results from the latest international tournament. Pros and amateurs alike will enjoy their time at the Tennis Country Web site. Not only can you review daily tennis news updates, read player biographies, browse the rankings, receive advice from the professionals, and purchase tennis gear online, but you also can find out about more than 100 tennis camps and resorts around the country, join your national tennis association, subscribe to a tennis magazine, donate to the featured charity, chat with other tennis aficionados, and more.

Disney.com
http://www.disney.com

Leave it to Disney "magic" to develop a Web site that will actually make you happy to spend hours browsing through advertisements. The sharp and extremely colorful graphics rival big-screen quality, and Disney gives you the chance to download them (sound bites and film clips, too) from its large multimedia library. Realizing that people of any age can spend money, Disney has activities for both the young and old. Kids can play (or buy) games, check out the Mickey Mouse Club (or order apparel), and download (or purchase) coloring books of their favorite characters. Adults can make vacation plans, order tickets to the Magic Kingdom, and find out what they're missing on the Disney Channel. You'll have so much fun you might even forget that this is all sales propaganda!

The Obsolete Computer Museum
http://www.ncsc.dni.us/fun/user/tcc/cmuseum/cmuseum.htm

To complement the introduction of "Your Old PC" to *PC Novice*, we've decided to give our readers a sampling of some *really* old PCs. Take a look at the motherboards on these babies, and you'll be amazed by the incredible capabilities of your 286 or 8088. You won't get bored looking at pictures, though. This page also gives you the chance to share your knowledge of old computers with others or ask a question about your own Commodore 64 or Osborne 1. If this page interests you, don't forget to look up the recommended older computer sites as well as links to the sites of "very, very smart people" (we'll take their word for it!).

GNU WebChess
http://www.delorie.com/game-room/chess

Now that Kasparov has demonstrated to the world that humans can still beat any computer at chess, it's your turn to do the same. GNU WebChess gives you the opportunity to challenge your computer to a game of chess. You select the skill level of the computer, so you can blame only yourself if you lose. ●

Compiled by Jeff Dodd

Buying & Selling Old Computers

Many readers have recently expressed concern about the computer industry's attitude toward older computers. It seems that the industry pays too much attention to what might happen in the future and not enough attention to what actually happened in the past. Too often, in an attempt to construct the gadget of tomorrow, manufacturers overlook yesterday's consumer. They forget that next year's dream product is often little more than a minute improvement of last year's best-seller. Many advertisements and magazines throw around words like "obsolete" and "upgrade" without realizing the fear these words strike in the heart of anyone who has endured the lengthy and expensive process of purchasing a computer.

We've found that despite the mainstream hype, computer owners haven't given up on their older PCs. In fact, according to a recent study, 46% of our readers reported that they had a 386 or lower computer at home.

In order to better serve this substantial portion of our readers, we welcome you to the first edition of Your Old PC. This monthly feature is dedicated to those who haven't abandoned their trusty desktop companion for a high-tech, new-fangled model. Each month, we'll show you how to get the most from your vintage computer by providing helpful upgrading advice, informative buying and selling guidelines, tips on finding software for your computer, and answers to some of your most perplexing questions. Before you buy, sell, trade, or throw that old computer out the window, look first to Your Old PC.

This month, we address the market for used computers, which has long been a worrisome for buyers and sellers of older model computers. Buyers don't want to pay much for an obsolete computer when a new, top-of-the-line model, which is covered by a warranty, can be purchased on credit for just "a few dollars a week" at the local computer store. On the other hand, a seller, who still may feel the economic repercussions of purchasing such an expensive product, can't bear the thought of selling a computer system for what seems like a nominal price—especially if it works as well as it did the day it was purchased. To complicate the matter even more, consider that neither the buyer nor the seller may know how much a used computer is actually worth. This type of ambiguity makes it extremely difficult for the two parties to compromise on a fair price.

Some may argue that these problems are prevalent in all used product markets. After all, no one likes to pay too much or charge too little, and the value of any used product is open to discussion. Nevertheless, there is a pair of factors, each unique to the computer industry, that particularly affect the value of used computers. First, as new computer technology improves, new computer prices paradoxically decrease. Second, and more important, computers become obsolete.

Examples of the increasing technology/decreasing price phenomenon abound in the computer industry. For example, the well-known Moore's Law states that as the power of microprocessors doubles every 18 months, their price will decrease by half during that same period. Similarly, a one gigabyte hard drive priced at nearly $2,000 a year ago now can be purchased for $200. Although this idiosyncrasy of the computer industry is extremely attractive to the patient consumer, it creates a restrictive environment in which to sell a used computer. Resellers can't compete in a market that offers new products at prices that are a mere sliver of last year's sale price.

The pseudo-plague of obsolescence that infects the computer industry also affects the

Used PC Prices

We scavenged online sites and offline catalogs to compile our used computer price guide. Whether you're buying, selling, or replacing a computer or component, this list will give you an idea of how much to pay or charge for it.

Hard drive—20MB: $20 to $30; 40MB: $35 to $45; 100MB: $65 to $75
Diskette drive—720KB internal: $7 to $15; 1.44MB internal: $25 to $35
Laser printer—B/W: $200 to $300; Color: $425 to $525
Dot matrix printer—9-pin: $40 to $60; 24-pin: $75 to $100
Microprocessor—8088 (with motherboard): $5 to $10; 286 (with motherboard): $10 to $15; 386: $10 to $20; 386 (with motherboard): $20 to $35; 33MHz 486SX: $35 to $45
Computer system (includes monitor, computer, and keyboard)—8088: $50 to $125; 286: $125 to $250; 386: $250 to $350; 33MHz 486: $350 to $550
Monitor—14-inch Monochrome: $15 to $25; 14-inch CGA: $35 to $45; 14-inch EGA: $70 to $90; 14-inch VGA: $150 to $170

value of used computers. **Obsolete**—a misunderstood and overused word in the computer industry—means that the capabilities of an older computer have been exceeded by the capabilities of a newer computer, so much so that the older PC is unable to keep up with technological breakthroughs. The computer is no longer useful for the next generation of computer capabilities. Note, however, that this does not mean the older computers have lost their usefulness altogether, nor does it mean that the older computers cannot be sold or purchased. The value of a so-called obsolete computer has simply become more subjective than the value of other products. The market for obsolete computers has simultaneously become more volatile than other markets. What might be worth $500 to one person may be worth $1,000 to another and nothing to a third.

The ramifications of this mean that anyone in the market for a used computer must be particularly aware of how the computer will be used. For simple tasks, such as word processing, organizing home finances, and compiling databases, almost any old computer can run the text-based software. However, these older computers are incapable of running most of the GUI-based (graphical user interface) software found in stores today. Therefore, it's vital when purchasing any computer to consider not only immediate needs but also future demands.

It's also important to consider who will use the computer. The text-based, command-intensive interfaces (such as MS-DOS) that are indigenous to most older computers can be intimidating or difficult for inexperienced users to operate. Unless there is someone available to teach these newbies how to function in a text-based interface, it's advisable to spend a little more money to purchase a newer computer. Most newer PCs are equipped with a GUI, such as Windows, that lets these beginners learn as they explore. Some new computers also offer accessibility options for users with special needs, such as larger text for those who have difficulty reading the standard-sized text and keyboard configurations customized for those with manual handicaps. These options are unavailable on many older PCs.

Finally, when you've found a computer that fits your needs, give it a manual checkup before you hand over the money. Remove the cover to make sure it contains the advertised hardware. Find out whether the software is preloaded or if the diskettes are included. Check to see if the printer, mouse, modem, and other components work. Familiarize yourself with a used computer price guide, such as the one included here, as well as the price of new computers and word processors. You don't want to pay more (or even slightly less) for a used computer than you could pay for a new one. Ask your local computer store if it stocks software for older computers or if it has access to older software. It's also a good idea to get the phone number of the person selling you the computer in case you encounter any problems. ●

by Jeff Dodd

From Our Readers...

Dear PC Novice:

We are a nonprofit preschool that has been given two IBM 286-based computers that were apparently part of an office network. They run DOS and have 20MB hard drives and 3.5-inch diskette drives. We have only one children's program that is DOS and will run on a 286. Where can we get more DOS software for the children? We would also like to hook the two computers to one printer, but we're told that there is no software in the computers that directs a printer. Will we have to buy a new printer in order to get such software? Or is there a way to purchase a used printer and secure such software?

Karen Grubaugh/Tampa, FL

Finding software that will work on these older computers can be a difficult task. After checking with parents and family, you should call local pawnshops, browse garage sales, and post an ad in your local paper. If you have online access, search the Internet for used software. Finally, call the manufacturers directly to see if they have any old software in stock. Surprisingly, a few major software producers still offer software for 286-based computers. Broderbund's *Where In The World Is Carmen Sandiego?* and *Where In The USA Is Carmen Sandiego?* and Disney Interactive's *Mickey 123* are a few of the most popular. You also can contact second-hand software dealers such as Surplus Software. It's not going to be easy to find these programs, but when you do, it will be worth your trouble.

Your printer predicament can be solved easily. You shouldn't have to worry about incompatibility. Three of the largest printer manufacturers—Canon, Hewlett-Packard, and Epson—informed us that their printers were indeed compatible with a 286-based computer, although you may need 2MB to 4MB of RAM if you plan to use the high-end features of these printers.

Once you have a printer, you only need to install the **device driver** into your computer to make it work. A driver is software that lets a hardware peripheral, known as a device—in this case, the printer—communicate with your PC. New printers should come with a device driver; used printers may not. If your printer doesn't come with the correct device driver, call the printer manufacturer. The manufacturer will send you a free copy of the necessary driver on a diskette.

For help on connecting multiple computers to a single printer, or vice versa, see "Creating Simple Printer-Sharing Schemes" in the April 1996 issue of *PC Novice*. ○

For More Information:

Disney Interactive
(800) 228-0988, (716) 871-7330
Broderbund
(800) 521-6263, (415) 382-4400
Surplus Software
(800) 753-7877, (541) 386-5215

Send questions about old computers to:

Your Old PC
c/o PC Novice
P.O. Box 85380
Lincoln, NE 68501

Volume prohibits individual replies.

Fine-tuning Your CD-ROM Drive's Performance

Though CDs are a wonderful way to store large amounts of data in a small space, retrieving that data sometimes takes longer than users want to wait. Even the fastest CD-ROM drives operate at speeds many times slower than hard drives. Luckily, there are several things you can do to improve your CD-ROM (compact disc, read-only memory) drive's performance.

One of the first things you should do is make sure you have the current version of the **device driver** for your CD-ROM drive. (A driver is the piece of software that tells your computer how to communicate with your CD-ROM drive and how to operate it.) These drivers are updated frequently, but you may not find out about the updates unless you call the manufacturer and ask whether the version you have is the most recent. The software updates usually are available for downloading from World Wide Web sites or bulletin board systems (BBSes). Your product manual should list the number to call to check on the driver updates. If the driver is available online, the Web page address or BBS number also may be listed.

Using Microsoft SMARTDrive (Smartdrv.exe) Version 5.0 or newer also can improve your CD-ROM drive's performance. (Version 5.0 was the first to support CD-ROM caching. **Caching** is a process in which frequently accessed data, in this case from a CD-ROM, is stored in a specific location for faster access.) SMARTDrive is a hard drive cache, which takes information from the CD-ROM and places it on the hard drive. MS-DOS Setup may have added the SMARTDRV command to your Autoexec.bat file when you installed MS-DOS. If so, SMARTDrive starts on system startup. You can check your Autoexec.bat file to be sure. If it isn't there, you can add the following line:

```
smartdrv
```

to your Autoexec.bat file so that it launches automatically on startup.

NOTE: Before making any changes to your Autoexec.bat file, you always should place a backup copy of the file on diskette in case you run into any problems and need to restore the file in its original condition.

If SMARTDrive is not in the root directory of your startup drive (this is usually the C: drive, so the root directory would be C:\), you'll need to add the path to the beginning of the SMARTDrive statement. For example, if SMARTDrive is in the WINDOWS directory on the C: drive, you would type:

```
c:\windows\smartdrv.exe
```

in the Autoexec.bat file.

There are several items you can add to the end of the statement to change details about how SMARTDrive functions; these are listed in your Windows user's guide.

While Windows 95 has a built-in cache for improving CD-ROM performance, it often incorrectly identifies the CD-ROM drive at the time of installation. To change the setting, open the Control Panel, choose System/Performance/File System/Advanced/ CD-ROM, and choose the drive's speed from the Optimize Pattern drop-down list. You also can change the cache size. If you have at least eight megabytes (MB) of random-access memory (RAM), set the cache size as high as you can to increase the amount of data that fits in the cache. If you experience problems with your system's performance, decrease the size.

Make It Faster

There are several caching and acceleration products available to help you make your CD-ROM drive faster. These CD-ROM accelerators, which appeared on shelves early last year, use different techniques to compensate for the slow access speed. Some use RAM caching, while others use the hard drive instead. The two we reviewed both use hard drive space.

TidBits

Ballard Synergy's *d-Time* CD-ROM accelerator software (with versions for DOS, Windows 3.1, and Win95) uses the hard drive to increase your CD-ROM drive's performance. When we installed the program, we chose a 30MB acceleration file (the smallest recommended for this program). We tested *d-Time95* using *Compton's Interactive Encyclopedia*. During Compton's installation process, we chose the Medium configuration, which was the default. When we ran an Idea Search in Compton's, using the keywords "island and sailing," the first search took 25 seconds, showing little improvement over the results of the CD-ROM drive running without any accelerator software. (The same search took 30 seconds without any caching.) After the program had done the search once, though, it performed the search again in eight seconds. After we turned the computer off and restarted it, the search again took only eight seconds, demonstrating that d-Time retains the information it "learns" during each session.

CD-ROM Express, a CD-ROM caching product from PC-Kwik Corp., supplements the CD-ROM drivers built into Windows. Unlike conventional caching, which provides no significant increase in speed until the second time a given piece of information is requested, CD-ROM Express figures out which data you're likely to need next from your current CD-ROM title and moves that data from the CD-ROM to your hard drive. It also retains that information between sessions, so that the frequently accessed information will be in the cache the next time you use that application.

When we set up CD-ROM Express, we chose a cache size of 30MB. (The minimum is 21.) Running the same Idea Search in Compton's we used with d-Time, the search took 17 seconds with CD-ROM Express activated as opposed to 30 seconds without the cache. That was the first time we searched for those terms. When we searched again with CD-ROM Express activated, after having turned off the computer, the search took only nine seconds.

It's important to realize that caching software will not make everything you do with your CD-ROM drive faster. Akyra Pagoulatos, director of CD Products at Philips Professional Solutions, a division of Philips Electronics, explains that caching works only in certain situations. The caching software designates a section of the hard drive as cache space. When you look up a 12-page article in an encyclopedia on CD-ROM, for example, the caching software takes as much of the article as possible (probably a few pages worth of information) and moves it from the CD-ROM to the hard drive and from there to your monitor. While you're reading the first pages, the software retrieves the next batch, tricking the system into thinking it's continually getting information.

Pagoulatos says that works as long as the user is predictable (as long as what you want next really is the next few pages of the article). But if, for example, you read the first few pages, find an interesting reference to another topic, and look up that article, the information in the cache isn't what you need, so you won't gain any speed.

Also, if you're not using the same information, the cache won't help. For example, when we looked up information from Compton's, if we had looked up two totally different keywords on a second search, the speed would not have improved from the first search because that information wouldn't have been stored in the cache. And if we performed the same keyword search after having done many others in between the first time and the second, it's possible that the original information in the cache would have been overwritten if we had exceeded the size of the cache.

It's important to realize that caching software will not make everything you do with your CD-ROM drive faster.

You can think of the cache like a shelf; it can hold only a certain number of books, and if you keep adding books to the left end, eventually those on the right get pushed off the shelf. In the same manner, the first information in the cache will be the first to be overwritten once you've used up the allotted amount of space.

Tuan Nguyen, compatibility test lab manager for Philips Professional Solutions, cautions that while caching may improve your CD-ROM drive's performance, you will have to make sacrifices in terms of RAM and/or hard drive space to use as the cache area. For users with a lot of spare memory, this may not be a problem.

Another option, this one free (at least in terms of money), is to make your CD-ROM drive **buffer** larger. (A buffer is a portion of memory reserved for the temporary storage of data being transferred to or from a storage device—in this instance from your CD-ROM drive.) If you have 8MB or more of RAM, you can improve the performance of your CD-ROM drive by increasing the number of memory buffers in the MSCDEX driver in your Autoexec.bat file. Check to see if the statement has the flag /M:xx at the end. If not, add it, replacing xx with a number between eight and 12, depending upon the amount of memory you can spare.

Nguyen explains that buffers also take away space you might need. Thus, you have a compromise similar to the one you'd make with caching software. He also says it's most helpful for users who repeatedly access the same small files from a CD-ROM instead of using many files from it or working with larger files.

As simple as this sounds, another way to get the best performance possible from your CD-ROM drive is to take good care of those CD-ROMs. Handle them by the edges or the center hole. Keep them free from dust and fingerprints, and don't use them as coasters. Though they are tough to damage, they are easier for the drive to read when they've been cared for properly. ●

by Diana K. McLean

For More Information:

d-Time
Ballard Synergy
(800) 692-0492
(360) 697-9260

CD-ROM Express
PC-Kwik Corp.
(800) 274-5945
(503) 644-5644

Q&A

Need help with your hardware or software?

Looking for simple explanations on technical subjects?

Send us your questions!

DOS COMPUTING

Q: *In the May 1995 issue, you described how to personalize the DOS prompt. I had fun with it, making whimsical prompts and showing my kids I still have a sense of humor. But then I wanted to change back to the original C> prompt. When I entered the line* ***prompt c:\>****, instead of what I expected, I got a prompt that showed just "C>" and not the colon or the backslash. What's wrong?*

A: You should have typed **prompt pg**. The "$p" tells your system to display the letter of the drive that's active at any given time, while the "$g" says to display the identity of the directory that's currently active. This creates a **dynamic** prompt that changes as needed. Just putting text (without "$" or other prompt-trick characters) after "prompt" creates a **static** prompt that never changes. You can experiment with these at a DOS prompt without danger. For example, if you put **prompt alex**, the prompt always will show as "alex," **prompt 1/2#dog** gives a prompt stuck at "1/2#dog," etc.

What happened to you touches on a curious point about DOS: From what we've just said, you'd think you'd have ended up with a prompt that *looked* right but was really just stuck at a meaningless "C:\>". But the character ">" has a tricky and esoteric meaning in a batch file or at a DOS prompt. It's called the REDIRECTION command. It means "take whatever is on the left side of the > and redirect it to whatever is on the right side." Huh? Well, for example, the command **dir > myfile.txt** would

1. Run the DIR command,
2. Prevent the results of DIR from displaying on-screen,
3. Redirect the stuff that normally goes to the screen into a file called Myfile.txt.

So *your* command was interpreted by DOS as "run the PROMPT C:\ command, then take the results of doing that and put them inside the file on the right of the >." But what was on the right? Nothing. That doesn't compute, does it? Try typing **prompt c:\>** (or, for that matter, **prompt alex >**) at a DOS prompt. The ">" command, finding nothing to redirect to, will freak out and say "file creation error." So, after your PROMPT command failed, DOS just reverted to its "when all else fails" default prompt, which shows the drive letter without the directory.

WINDOWS 3.1

Q: *I have Windows 3.1 on my 125MB C: drive. I recently added a second, 528MB hard drive as a D: drive. My C: drive was overstuffed, so I took several programs I use a lot and moved them over to the D: drive. The problem is that now I have to enter the DOS command* ***d:<enter>*** *to switch to the D: drive for 90% of my work. Frankly, I'd like to have Windows on my bigger drive, but I'm scared to copy it. Is there anything you can suggest to make my life easier?*

A: Frankly, if you'd called us before you put in the second drive, we probably would have told you to try selling the old drive to someone else and put everything on one drive. These kinds of irritations are common on systems with newly added second drives, unless you plan like an expert when adding the second drive. You're right to be worried about moving Windows by copying it to the new drive. It would be thoroughly confused about where it is and would do all sorts of flaky things if it ran at all. The safe way to move it would be to re-install it onto the D: drive from factory diskettes—as if it didn't exist on the C: drive at all. Then you'd have to delete the old copy of Windows and re-install most or all of your Windows programs because the new Windows wouldn't necessarily know where to find your programs. Needless to say, you'd better have a full backup of your system before such major surgery, unless you don't care about getting stuck halfway between two partially working systems.

The simple, partial solution for you is just to add one simple line near the end of your Autoexec.bat file. If you add the command you've been using (your **d:<enter>**) there, when you start your computer, it'll automatically be sitting at the D> prompt, where you say you want it 90% of the time.

WINDOWS 95

Q: *I know that if you install Windows 95 onto a computer that already has MS-DOS on it, you still can use DOS if you want to. But what if I buy a new computer that has only Win95 installed? Will I be able to use DOS? I read that Win95 runs without DOS and doesn't require it, but I would like to continue to use DOS because I'm more familiar with it.*

A: Don't worry. Despite technical arguments about whether or not Win95 "*really* can run without DOS" or "just hides DOS better," Win95 definitely comes with a DOS (sometimes called MS-DOS 7.0). There are some minor commands that don't exist anymore in this DOS version, but

anyone used to, say MS-DOS 6.x, would find MS-DOS 7.0 virtually identical. There's one peculiarity for old DOS jockeys: The DOS files are no longer kept in the DOS directory but can be found in the WINDOWS\COMMAND directory.

There are three ways to use DOS with Win95. The most common is to left-click the Start button, go to Programs, then left-click MS-DOS. That opens a DOS window. For most purposes, you can do anything in the DOS window that you could do in plain old DOS—sometimes doing it better—even while running Windows programs in other open windows. Occasionally, a DOS program won't run well (or at all) while sharing the computer with other open windows, and in that case, the Win95 Properties lets you start the program in MS-DOS Mode. That means that when you start the DOS program, Win95 will close down all other running programs, put itself into a suspended state, run the DOS program, then automatically reopen itself when you shut down the resource-hogging DOS program. As a last resort, if you have installed Win95 over a previous version of DOS, Win95 does have a way that, during startup, lets you tell it to "boot" (start) up the previous version of DOS.

Q: *Shortly after a successful installation of Win95 over Windows 3.1, I unknowingly introduced a "boot sector type virus" into my computer. Win95 detected this and reported that in response to this, it was "setting the hard drive access to 'compatibility mode.' " I got rid of the virus with antivirus software, but my hard drive is still running in compatibility mode. When I rerun the hardware-detection routine in attempts to get it to set itself back to what I guess is called "regular mode," it fails. I'm told that compatibility mode seriously impacts performance. Is that true, and what can I do?*

A: **Compatibility mode** is an older, slower, safer method for Win95 to communicate with a hard drive or CD-ROM drive. Win95 will use that mode either (as in your case) when it senses some sort of danger or (more commonly) when it doesn't understand enough about a hard drive or CD-ROM drive to figure out how to communicate with it in faster 32-bit mode. This is common with CD-ROM drives that are attached to the parallel port. You can find out if a hard drive or CD-ROM drive has been set to compatibility mode by looking at Win95's Performance page in the System Properties dialog box in the Control Panel. The speed penalty for running in compatibility mode is significant (about twofold) but not disastrous. In your case, since the drive was once running in normal mode, it should be able to do so again.

There are two things you can do that might coax Win95 into properly recognizing your hard drive.

First, before rerunning the hardware-detection routine, enter the Device Manager by highlighting Control Panel and left-clicking the System icon, and remove any existing device drivers listed for the hard drive or CD-ROM drive. If you run hardware-detection with a driver already assigned to a device, Win95 won't add a second one. (This is particularly important with a CD-ROM drive inexplicably reverting to compatibility mode.) Here's how to remove the existing drivers:

1. Re-install the real mode drivers. (This doesn't apply to you but does to those having similar problems with CD-ROM drives.)
2. Enter Win95's Device Manager.
3. Remove the controller or drivers that appear to be assigned to the drive.
4. Restart Win95.
5. Rerun the Hardware Wizard.

You also could try rerunning Win95's Setup (as if you're re-installing Win95 from scratch). We say this because there are indications that the hardware-detection routine in Setup is more thorough than the similar operation in the Add New Hardware routine and sometimes succeeds in properly recognizing a device that refuses to play ball through Add New Hardware.

Q: *Can backup diskettes that were made with previous versions of MSBACKUP for DOS or MSBACKUP for Windows be read (restored) by the backup applet in Win95? If not, what can I do to get data off my old backups?*

A: No, it can't be read from those diskettes. Backward compatibility is useful, and one should, as you did, always think about how you'll be able to get stuff off those old backup diskettes or tapes four years from now when you need it for that IRS audit. The simple answer is to always store a copy of the old backup program with the old backups. In your case, you'd need either MSBACKUP for DOS or MS-BACKUP for Windows. If you're lucky, one of these programs stayed on your system if you installed Win95 over a previous version of MS-DOS 6.0. If not, you can get those older backup programs off a set of MS-DOS 6.0 installation diskettes or on the Win95 CD-ROM. These programs are located in the OTHER\OLDMSDOS\MSBACKUP directory. Copy all the files in this folder to your hard drive, and double left-click Msbackup.exe to open the application. For more information about using the Msbackup.exe program, start the program, then left-click Restore on the Help menu.

If you only own a diskette version of Win95, you can download the files from CompuServe or from a computer running MS-DOS 6.0.

UTILITIES

Q: *I've read many articles about defragmenting a hard drive, and I understand both why to do it and how to use the DEFRAG command. But when DEFRAG runs, it shows certain disk areas as "XXX" marks*

UTILITIES (cont.)

and indicates that these mark "unmovable" files. Clearly these interfere with complete defragmenting. Nowhere have I seen a discussion of unmovable files. What are they, and how can I get them all to sit neatly at the beginning or end of the disk area?

A: Files that DEFRAG considers **unmovable** are ones that some program (DOS, Windows, or [rarely] a person) has declared as hidden, system, or read-only. Hidden and system files don't show up when you use the DIR command or in File Manager views. Contrary to some people's first reactions on discovering hidden files in their computers, these usually are *not* part of a conspiracy by Bill Gates, Intel, virus-mongers, or your child to conceal things for evil ends. Usually an unmovable file is so important for some program's or operating system's needs, yet its purpose so unclear, that a programmer decided to protect it from accidental deletion as trash. Common hidden files include Io.sys and Msdos.sys (both basic parts of DOS) and 386spart.par (a permanent virtual memory swap file often installed by Windows).

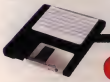
A few expensive, specialized programs (such as *StenoCat* court reporting) use a small hidden file as part of a vendor's way to prevent copying the program from one computer to another, unauthorized computer. The file not only has a serial number in it, it also "knows" exactly where it belongs on the disk. Even if pirates reveal it and copy it to a new computer along with the pirated software, unless they magically put it in the exact same position it occupied on the old disk, the program still detects foul play and refuses to run. This is just one case where it's foolhardy to sidestep a file's unmovable nature; you could disable the program you legitimately own.

While you're right about unmovable files interfering with getting absolutely perfect defragmentation, usually the performance penalty is so small that it's of concern only to those born under double-Virgo signs who pick lint off their sweaters with magnifying glasses. Even if you make the files movable and then run DEFRAG, they won't necessarily get relocated to your disk's beginning or end. We do occasionally like to reveal a large hidden file or two to be sure it isn't 8-year-old trash, but play at your own risk. Don't phone us if you shoot yourself in the disk. The secret to making files visible and movable lies in using the ATTRIB command to remove hidden, read-only, and/or system attributes. Or you can open the File menu and click Properties in Windows File Manager. To learn more about ATTRIB, type **help attrib** at the DOS prompt.

ONLINE COMMUNICATIONS

Q: *In my CompuServe WinCim 1.4 software, there's a neat filing cabinet where I store my different incoming E-mail messages. But when I use CompuServe and I download a text file from Microsoft Knowledge Base (and certain other areas of CIS), the file gets placed in the file cabinet under a generic name, which tells where it came from rather than describing what's in it. For example, it might get named "Article. QuickSearch—By Document CIS." Unfortunately, ALL the dozens of similar files I've previously downloaded also are filed with the same name. So, for example, if later I want to find the one about "System Slows After 32-Bit File Access Is Enabled," I have to OPEN every file to find it! Worse yet, there appears to be no way for me to even manually go into the file cabinet and change the header title text in the file cabinet display. Please tell me I'm wrong and that there is such a way, or at least that when I upgrade from WinCim 1.4 to 2.01, there will be such a way.*

A: Though you easily can move messages in the file cabinet from one category to another, there is no way to rename a file in the file cabinet. (Worse yet, if you were sneaky enough to try to go out to DOS and rename the file there, it would probably foul up your whole file cabinet.) As a workaround, you could take that file and forward it to yourself via E-mail. In the process of doing that, you could have any subject heading you want. You *don't* actually have to E-mail it to yourself: While you're in the dialog box called Forward, change the subject to whatever you want, and then, instead of pressing the Send button, press the File button. Of course, don't forget to delete the original message with the generic, uninformative title. WinCim 2.01 also has no way to rename a cabinet file, but it does have facilities to search the file cabinet, so that may help you find stuff in it. Maybe WinCim 3.0 will have a Rename function.



MISCELLANEOUS SOFTWARE

Q: *In Quicken 5.0, can I set up online bill payment (OBP) to draw from two different accounts in two different banks under two different names? The reason for this question: Both my fiancée and I would like to use OBP through a single data file in Quicken, but we have accounts in two separate banks. Can we set up two accounts in OBP, then specify which payments should be charged to which account? If so, should we just include a voided check from each of our bank accounts with the OBP application that came in the Quicken package? Is anything else required?*

A: Basically, you can set up only one main Social Security number per Quicken data file. So your fiancée probably will need her own file.

COMPUTER HARDWARE

Q: *I had my computer's CPU upgraded from a 486DX2/66 to an Intel DX4/100*

COMPUTER HARDWARE (cont.)

OverDrive CPU (the computer has 8MB of RAM). But Windows seems to run at the same speed. What kind of improvement should I expect? What do you think the problem is, and how can I improve the performance? Also, how can one verify if the new CPU actually was installed?

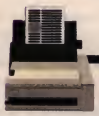
A: Your last question first. Of course, you could open the case, take out your reading glasses, and look for a chip about 1-inch square (with, in this case, a waffle-like heat sink on it) saying "Intel" and "DX4" on it. Some utility programs (such as Norton's *SysInfo*) will tell you what CPU you have without opening the box. But it's not likely a dealer would defraud you in such a blatant way as you seem to fear (charging you for a CPU and not installing it). We're not surprised that you can't readily sense much speed increase: A DX4/100 runs only 1.5 times as fast as a DX2/66 (not twice as fast as its name implies; it really should be called a "DX3"). One rule of thumb is: "A function on a computer usually has to double in speed before a casual user, not using a stopwatch or benchmark, notices an increase."

Also, many things that affect computer speed don't depend totally upon your CPU. For example, the perkiness of screen graphics depends very much upon your video card (see "Understanding Graphics Accelerator Cards" in the April 1996 issue of *PC Novice*), loading and saving programs depends upon your hard drive and disk controller's data transfer speed, etc. We hate to tell you this after you've blown your bucks on the CPU, but in your case, you'd probably have seen more performance boost by spending your money on more RAM or an upgraded "premium," high-performance controller card for your hard drive. If you're lucky and your dealer's a saint, he'll take back the CPU and let you buy something more useful. Had you been starting with a poky old 486DX or SX/25, you'd have seen a far more obvious and satisfying threefold boost upon installing the DX4 OverDrive.

Q: *In your article "Changing Your Computer's Battery" (March 1995 issue), you said, "If the old battery is soldered to the motherboard, don't do anything." Well, my dead battery is soldered to my motherboard. I don't want to replace the whole motherboard; I could take it to a dealer or attempt to solder it myself (I do have some soldering experience). What do you suggest?*

A: When we said "don't do anything," we didn't mean give up the project! We just meant that most users should leave the dead battery in but should go ahead and connect an "external pack" replacement battery like the article described.

Another possibility, if you're careful, is (after installing an external battery) to get some pointy scissors or wire cutters and *very carefully* clip the two wires coming into the old battery. This is slightly better than just leaving it lying there connected. As for desoldering it: Motherboards are sensitive to heat; if you're a skilled solderer, you should be able to desolder and remove it. If you ruin your board, however, don't send us the bill! In any case, we still suggest replacing the battery with an external plug-in type—not soldering in a replacement.



PRINTERS

Q: *About a month after I got my then-new HP OfficeJet—a combination printer-fax-copier—I noticed that Hewlett-Packard came out with a newer model (OfficeJet LX) that does everything mine does and more, such as allowing the sending of faxes directly from the computer screen (on mine, I have to first print the fax on paper, then hand feed it through the fax) and working as a scanner. Two questions: I've heard there's a software upgrade kit that will turn my old OfficeJet into an OfficeJet LX. Is that true? And, if I buy a second, newer OfficeJet LX (or talk a friend into getting one), couldn't I just take the software that comes with the new LX, install it on my computer, and then in effect have the upgrade kit for free?*

A: It's frustrating to buy something only to find that if you'd waited a month, you could have gotten the newer model with twice the features, sometimes at a lower cost! This is the only business where you call a vendor, are told "Oh, the price we quoted you last week is no good," and that means the price has gone *down*. About all you can do to protect yourself is to read the computer magazines and ask salespeople if they suspect an upgrade is in the pipeline. They might not tell you, but at least you can ask.

Users can indeed upgrade original OfficeJet printer-fax-copiers to LX capabilities by purchasing an upgrade kit for $120. The kit appears to be available from HP only (800/772-4329). It's a software-only kit, so you don't have to take apart your OfficeJet. Kits sold after December 1995 work for both Win95 and Windows 3.1, while the older kits work only with Windows 3.1.

Your idea of using the software from your friend's LX as an upgrade kit deserves an "A" for effort and frugality. But it won't work. Though the software upgrade kit does give your older OfficeJet all the LX functions, in the actual LX model, many of its new functions are done in hardware that is part of the LX's guts; the software that comes with the LX isn't the same as the upgrade kit. ●

Get straight answers to your technical questions. Ask *PC Novice*! Send your questions, along with a phone and/or fax number so we can call you if necessary, to: PC Novice Q&A, P.O. Box 85380, Lincoln, NE 68501. Please include all version numbers for all software about which you're inquiring, operating system information, and any relevant information about your system. (Volume prohibits individual replies.)

ACTION

EDITOR

When Ralph Nader can't be reached, bring your computer service problems to our new Action Editor column. This page, debuting this month, will help you find products, resolve service problems, and keep manufacturers alert to the critical issue of customer relations.

Are you having trouble finding a product or getting adequate service from a manufacturer? If so, we want to help solve your problem. Send us a description of the product you're seeking or the problem you've had with customer service. In billing disputes, include relevant information (such as account numbers or screen name for online services) and photocopies of checks. Include your phone number in case we need to contact you. Letters may be edited for length and clarity. Write to:

Action Editor
PC Novice
120 W. Harvest Dr.
Lincoln, NE 68521
or
Send E-mail to 74644.3017@compuserve.com
or
Fax us at (402) 479-2104

Dear Action Editor:

I tried to order a computer cart in which the monitor dropped into the cart so the user could glance down to read it. Heartland had discontinued this cart and did not replace it with a similar one. Can you name a source?

Lucy R. Woodman/Cheyenne, WY

MicroCentre, a computer furniture manufacturer, offers a line of desks and workstations featuring the monitor-down configuration. The Pop Top Desk (with a list price of $629) features a monitor compartment that can be retracted so that the unit becomes a conventional desk. The Flip-Top View Thru Desk ($519) holds the monitor below the desk surface and can be connected with other units to form custom workstation configurations. When the keyboard drawer of the Flip-Top Desk is extended, a panel in the desktop lifts to reveal the monitor just below the surface. When the keyboard is replaced, the desk ($459) has a normal surface. To find a MicroCentre dealer near you, call (800) 966-5511.

O'Sullivan, another furniture manufacturer, offers the Majestic Work Center (with a suggested retail price of $399) in which the monitor sits below the desktop and is viewed through a glass panel. This model is available at Office Max, Office Depot, and Service Merchandise or by calling (800) 327-9782.

●●●●●●●●●

Dear Action Editor:

(copy of letter sent to Connectix Corp.)

In July, after reading several favorable reviews of RAM Doubler, I purchased a copy for about $70 from Computer City in Salt Lake City, Utah.

After installing RAM Doubler, my system with a 486DX2, 8MB of RAM, and a 540MB hard drive actually ran worse! So I uninstalled it. I was going to take advantage of Computer City's 30-day, money-back guarantee, but I decided to call your technical support line first. I spoke with Cali, who told me she would send me the upgrade of RAM Doubler and that it should work.

So I waited. And waited. In September, I called technical support again. Another pleasant rep found the record of my July phone call, took my address, and said she would send the upgrade right out. And I'm still waiting. NOW, do you think you could send me the upgraded version of RAM Doubler?

Chris Plummer/Lyman, WY

We called Connectix and learned that the latest upgrade for RAM Doubler for Windows, version 1.0.2, is available for free download on Connectix's World Wide Web site at www.connectix.com. A Connectix technical support representative told us that there is no difference between the upgrade available on the Web and the upgrade sent out to customers who call in. The representative said, however, that call-in customers may have to wait several weeks for their upgrades because of a backlog of orders.

●●●●●●●●●

Dear Action Editor:

Despite warnings regarding problems with support from Packard Bell computers, I purchased one.

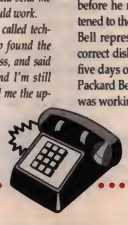
The problem began after I decided to use the "Restore & Recovery Disk," which, coupled with the Master CD, is supposed to restore my hard drive to its original configuration. It didn't work. I contacted Packard Bell's technical support. It was determined that the recovery disk didn't match the modem or the Master CD.

Since mid-October, I have been given four shipping dates for replacement disks, or, on the last occasion, an updated CD and recovery disk package. I have spent hours on the phone contacting various people who assure me, "It's in the mail." I have spent more than $40 on long-distance calls to have another office tell me the shipping date. But I receive nothing!

Robert E. Williams/Eugene, OR

After speaking with Robert, we learned that he had received three shipments since his letter. The first was a CD-ROM device driver, which had nothing to do with his problem. The second was a newer version of the Master CD, which didn't offer any assistance. The third package was a recovery disk that didn't work.

After working through the problem over the phone, a Packard Bell technical support representative told Robert that he'd received the wrong version of the recovery disk. Robert was told to call another toll number to order the correct recovery disk, but we contacted Packard Bell's public relations agency before he made the call. A representative there listened to the problem, and within 24 hours, a Packard Bell representative contacted Robert and sent the correct disk. Robert said he received the disk within five days of our first call to him, and within 10 days, Packard Bell called Robert to confirm that his system was working properly. ●



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PC EXPO in New York

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fact:

PC EXPO in New York is opening the door to the SoHo market with its new Small Office/Home Office Pavilion.

fact: The SoHo market is one of the fastest growing sectors in the economy, with small- and mid-sized companies growing 65% faster as consumers of PC-based products than the Fortune 1000.

fact: PC EXPO offers a "built-in" audience for SoHo marketers. Nearly a third of its 130,000+ attendees come from companies whose sales total less than $1 million.

fact: There's big business in small business. Today, nearly 47 million Americans work out of their homes at least part time. In addition to telecommuters, many of these "home workers" are entrepreneurs.

fact: It's estimated that home-based workers are 2.5 times more likely to adopt new technologies than traditional workers.

fact: The time to be thinking about PC EXPO in New York 1996 is right now. For information on attending the show or exhibiting in the Small Office/Home Office Pavilion, sponsored by *Income Opportunities* and *Homeworker* magazines, call Richard Del Giorno, show manager, at 800-829-3976 ext. 9226 or 201-346-1400. Or fax 201-346-1602.

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GLOSSARY
Of Terms

Bit-map Fonts—While all fonts appear on-screen as bit-map images, bit-map fonts are saved as actual bit-map files. During this process, the colored pixels on-screen are saved as zeroes and ones in a binary file.

Buffer—A portion of memory reserved for the temporary storage of data being transferred to or from another location, such as a storage device.

Cache—A section of memory where frequently accessed data is duplicated for faster access.

Clip Art—Ready-to-use artwork that can be placed in a desktop publishing (DTP) project to enhance the overall design. Some DTP programs come with their own clip-art files.

COM Port—**Communications Port.** A plug-in socket located on the back of a computer's case that is used for hooking up devices such as mice and modems.

Design—The pattern in which you display information on a page.

Desktop Publishing—The act of creating professional-looking documents by combining text and graphics on your PC with the use of page layout software. These documents usually are printed on a high-quality printer.

Device Driver—Software that lets the computer communicate with hardware devices such as a mouse, printer, or CD-ROM drive.

dpi—**Dots Per Inch.** Measures the resolution of a printer or scanner. The higher the dpi, the sharper the image will be.

Executable File—Any file or program that can be run, or executed, and has a file name extension of .EXE.

Flat-panel Display—A type of thin monitor usually seen on portable computers. Flat-panel displays are lightweight and take up little space but are more expensive to produce than standard television-like monitors.

Font—Although font is typically used to describe a particular design of letters, numerals, punctuation, and other symbols, a font is really a typeface at a particular size. For instance, while Times Roman is a typeface, Times Roman 12-point would be a font.

HTML—**Hypertext Markup Language.** The standard language used for creating and formatting World Wide Web pages. HTML documents are essentially text documents with embedded tags that contain coding for text formatting, graphics, and hyperlinks.

Hyperlink—A word or graphic on an electronic document, such as a World Wide Web page, that can be clicked to automatically load another document.

IRQ—**Interrupt Request Lines.** The wires that connect your microprocessor to hardware devices. IRQ lines let the devices request their share of attention from the microprocessor. Each line has its own address in the computer's memory.

Kern—Used in desktop publishing, this allows you to adjust the space between letters in a document.

Modem—**Modulator/Demodulator.** A device that lets a PC communicate and exchange information with other modem-equipped computers via telephone lines.

OLE—**Object Linking And Embedding.** A Windows technology that lets you embed, or link, a document with another. For instance, you could embed a graphic within a desktop publishing program that supports OLE. When you click the graphic to edit it, you would be taken to the graphics program in which you created the graphic.

Outline Fonts—Also known as scalable fonts, outline fonts are stored as a sequence of mathematical instructions that draw a smooth, curved outline of the characters' shapes. Another component then reads the outline font's instructions and scales the outline to the desired size, calculates how many and which pixels should appear inside the scaled outline at that size, and then colors in the pixels.

PostScript—A programming language used for creating fonts and complex graphics and designs. PostScript files can be printed on PostScript printers or can be reproduced on a system with *Adobe Type Manager* software. PostScript is predominant in the professional publishing market because it can handle complex color management and large graphics files.

Resident Fonts—The pre-installed fonts in an operating system or on a printer.

Resolution—A measurement of the sharpness of an on-screen image, usually measured in dots per inch (dpi).

Scanner—A device that recognizes text and images as light and dark patterns and turns the patterns into code a computer can understand and reproduce.

TAPI—**Telephony Application Programming Interface.** The communications interface developed by Microsoft and Intel that lets a desktop computer and a telephone work together.

TSAPI—**Telephony Services Application Programming Interface.** A programming interface created by AT&T and Novell that is the standard for connecting telephones to computers on a network.

TrueType—A standard for creating outline fonts that is built into the Macintosh System 7 operating system and Microsoft Windows. TrueType fonts can be embedded in documents created in these operating systems.

Type 1 Fonts—A standard for creating outline fonts, Type 1 fonts are created through the PostScript language.

Typeface—A particular design consisting of letters, numerals, punctuation, and other symbols, each design having its own slant and thickness. Arial and Helvetica are examples of typefaces.

FAX FEEDBACK

HELP US HELP YOU!!!

Does the well-known phrase, "Don't leave home without it" remind you of your laptop, pager, or cellular phone? *PC Novice* understands that mobile computing devices are quickly becoming a necessity for our readers. Here's your chance to let us know where you are or where you're going in the world of mobile computing.

Please take a few moments to complete the following survey and express your comments and concerns regarding portable PCs.

To show our appreciation for your comments, we will randomly select one Fax Feedback participant to receive a *PC Novice* T-shirt.

If you do not have access to a fax machine or would prefer to mail your response, please address your comments to:

Fax Feedback
***PC Novice* Magazine**
P.O. Box 85380
Lincoln, NE 68501-5380

Fax Number
402-479-2104

Topic of the month . . . Mobile Computing

Let us know your perspectives about "computing on the go!"

1. Do you own or use a laptop computer? (Check all that apply.)
   - ☐ Yes, for business purposes.
   - ☐ Yes, for personal use.
   - ☐ No. (If "No," please go to Question #4.)

2. How do you use your laptop computer? (Check all that apply.)
   - ☐ As a standalone unit.
   - ☐ With a docking station to tie into a network.
   - ☐ For online access using a standard modem.
   - ☐ For remote online access using a cellular modem.
   - ☐ Other (please specify): _____

3. What products do you currently use with your laptop or do you plan to purchase (PTP) for your laptop in the next year?

HARDWARE	Use	PTP	SOFTWARE	Use	PTP
PC Card	☐	☐	Word Processor	☐	☐
Modem	☐	☐	Spreadsheet	☐	☐
CD-ROM Drive	☐	☐	Databases	☐	☐
Printer	☐	☐	Presentation Software	☐	☐
Scanner	☐	☐	Multimedia Software	☐	☐
Other: _____	☐	☐	Other: _____	☐	☐

4. In the next year, do you plan to purchase any of the following mobile products?
   - ☐ Laptop/notebook
   - ☐ Subnotebook
   - ☐ Palmtop
   - ☐ Cellular Phone
   - ☐ Pager
   - ☐ Personal digital assistant (PDA)
   - ☐ Other (please specify): _____

5. What problems or experiences have you had with mobile computing?

   _____

   _____

6. What topics would you like us to cover regarding mobile computing?

   _____

   _____

We look forward to hearing from you. Thanks for your time!

Name and address:
This is optional but necessary to be included in the drawing.

Name: _____

Address: _____

Phone: (_____) _____

800 Reader Service

To request additional information on the following products and services advertised in *PC Novice*, call the number provided by the advertiser. When calling the manufacturer, please mention *PC Novice*.

Company Name	Phone Number	Page #
DataViz Conversions Plus	800-254-1116	BC
Educational Insights GeoSafari Multimedia Game	800-381-0381	29
Fuji Computer Products 3.5" 2HD Formatted Rainbow Packs	See Advertisement	17
ICS Learning Systems Homeschooling	800-595-5505, ext. 7080	14
Maxell Advanced Data Technology	800-533-2836	IFC
Newpoint The #1 Computer Accessory	See Advertisement	5
Parsons Technology Send Me Greetings 2.0 FREE	800-710-1222	13
PC EXPO PC EXPO In New York	800-829-3976, ext. 9226	87
PSI - Pipeline USA Unlimited Internet Access	800-785-2295	2
Pixel Perfect Medical Center 6	800-788-2099	IBC
SLWaber UPStart Multipower SRS	800-634-1485	30
SRW Kids Smart—Computer Accessories for Kids	800-547-7766	47
US Online Internet Made Easy	800-US-ONLINE	71
US Robotics Cruise The Internet	800-DIAL-USR	1

IFC=Front Cover IBC=Inside Back Cover BC=Back Cover

Letters To The Editor

Dear *PC Novice*:

I purchased my first computer in January 1991. Not too long thereafter, I came across a complimentary copy of *PC Novice*. That was my computer's salvation. I still have the original copy plus all of the subsequent issues. Today, I made out my check for a three-year subscription.

I am 69 years young, and I am commencing my third year as a volunteer instructor for SeniorNet. I have urged every student in my class to subscribe to *PC Novice* because I believe it to be the finest and simplest magazine available.

Frank L. Watkins/Arvin, CA

Dear *PC Novice*:

I've subscribed to your magazine for the past two years, and I've been wanting to write to say, "Fantastic Job!"

I've read other letters from your readers and agree that *PC Novice* should be mandatory reading for all computer users—young and old alike. It's fun to read, interesting, and educational. I've discovered I can depend on you to supply PC hardware and/or software information in a format that's easy to follow and easy to understand.

I'll be a lifetime subscriber, and I'll continue to recommend you to all of my friends and co-workers. Many years of success to *PC Novice*!

Tonya Malott/Little Rock, AR

Dear *PC Novice*:

I have just finished reading the April edition (my second magazine), and I had to stop and write you this note. You do not know how long new users like myself have been waiting for a comprehensive approach to addressing computer issues.

Your approach not only allows us to understand the technical side of the computer in a simplified manner, but it also addresses the many facets of the applications world. In particular, I like the articles dealing with the Internet.

It is so frustrating when reading other PC magazines to have to wade through all of the advertising and loose inserts that many times seem to consume more space than the articles themselves. With all the new features being offered on new computers today, it seems that continuing to address the issue of upgrading will sell many *PC Novice* copies.

Keep up the excellent work; I have been recommending your magazine to everyone.

John R. Bittner/Loveland, OH

Letters to the Editor should be sent to: *PC Novice* / P.O. Box 85380, Lincoln, NE 68501-5380. Letters may be edited for clarity or space.

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